



اونيورسيتي مليسيا فاهڠ
UNIVERSITI MALAYSIA PAHANG



SUSTAINABLE DEVELOPMENT GOALS REPORT

UNIVERSITI MALAYSIA PAHANG
MALAYSIA
2021

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UMPMalaysia

**TEKNOLOGI
UNTUK
MASYARAKAT**

5 STARS
QS RATES FOR EXCELLENCE

QS WORLD UNIVERSITY
RANKINGS

QS WORLD UNIVERSITY
RANKINGS: ASIA

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1 NO POVERTY



UMP Foundation

The establishment of the UMP Foundation or *Yayasan UMP* is the university's effort to collect and manage funds from the public, companies, and institutions for the welfare of UMP students. The fund is also used for funding educational and community programs and providing additional learning facilities.



Diagram 1.1: Details of the UMP Foundation Endowment and Fund

The UMP Foundation collected waqf funds of RM41,599.24 in 2021, making the total waqf funds RM1,148,255.12. In addition, the RM3,561,082.67 endowment fund was collected in 2021, with a total amount of RM7,995,333.96.

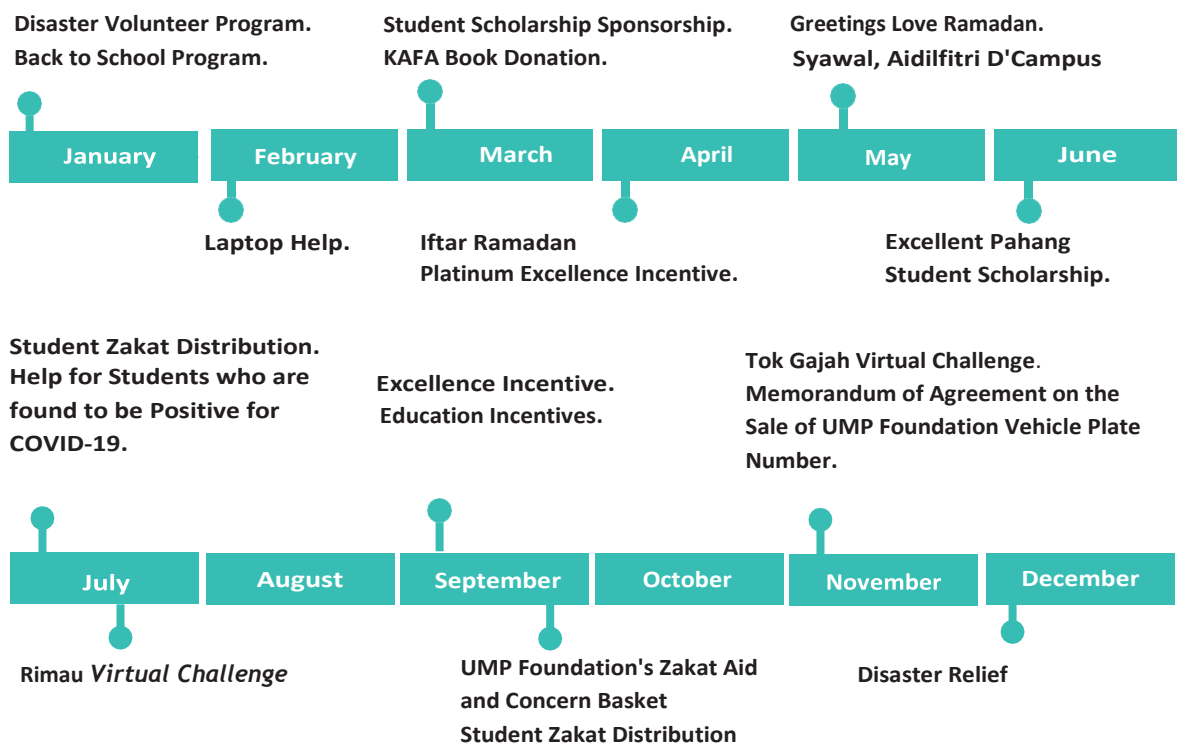


Diagram 1.2: Timeline of Activities and Programs in 2021

Collaborative Partner



Student Welfare,
Ramadan



I & P Group



Special Program for
Students, Community,
and Ramadan



Student's welfare



Charities, Scholarships
Students and Disasters



Student's
welfare

Student Welfare and
Excellence



Welfare and
Students



Student's welfare



Student's welfare



Community and Ramadan



Student's welfare



Student's
welfare



Ramadan and
Community



Ramadan

Diagram 1.3: UMP Foundation's partners



RM3,605,373.12
Education



9,956 people
Education Beneficiaries



RM512,300.00
Community



6,105 people
Community Beneficiaries



RM380,122.00
Disaster



1,230 people
Volunteer

Diagram 1.4: Distribution Details for 2020 and 2021



In conjunction with the month of Ramadan, the UMP Foundation took the initiative to distribute Ramadan Kits to students staying in rented houses in Pekan and Gambang. 100 aid sets have been distributed to students.

Education Cluster

Table 1.1: Distribution of Education Clusters According to the Year 2021 Program

		2021	
NO.	PROGRAM	FUND (RM)	RECEIVER
1.	Student Zakat	652,000.00	1,327
2.	Student Scholarship	240,000.00	7
3.	Student Scholarship (Undergraduate)	-	-
4.	Excellent Pahang Student Scholarship	33,240.00	6
5.	Excellence Incentive	150,000.00	150
6.	Platinum Excellence Incentive	21,000.00	42
7.	Education Incentives	24,000.00	24
8.	Emergency Incentive	-	-
9.	Student Loan Scheme	90,480.00	13
10.	UMP Alumni Program	56,000.00	4
11.	Iftar Ramadan	167,703.12	2,000
12.	Student Contributions COVID-19	20,000.00	100
13.	Campus Pantry Initiative	10,000.00	500
14.	Laptop	105,000.00	70
15.	Beautiful Syawal, Aidilfitri D'Campus	15,000.00	1,000
OVERALL TOTAL		1,584,423.00	5,243



Since 2016, the UMP Foundation has awarded educational scholarships to more than 82 eligible UMP students, especially to selected individuals who have the best academic achievements. A total of 23 UMP Foundation Scholarship recipients in 2020-2021 have been selected with a total allocation of RM905,000.00.



The UMP Foundation donated 70 units of laptop computers to UMP students in need to ease their burden in adapting online learning sessions. This donation of laptops is an initiative of the UMP Foundation based on the cooperation of donations from certain parties to help relieve students in need.

Community Cluster

Table 1.2: Community Program Implementation in 2021

NO.	PROGRAM	BENEFICIARY	FUND
1.	Back to School Program	100	RM15,000.00
2.	Choose To Share KAFA Book Distribution	4,000	RM200,000.00
3.	Stop by the Sahur UMP Foundation 2021	140	RM1,000.00
4.	Infaq Concerns Landscape Workers	90	RM4,500.00
5.	UMP Foundation's Zakat Aid and Concern Basket	121	RM30,000.00
6.	Humanitarian Program 2021	100	RM30,000.00
OVERALL TOTAL		4,551	RM280,500.00



The Touch of Love program at Riyaddus Solihin Tahfiz Pondok, Kampung Semangat, Pekan, Pahang is one of the UMP Foundation's initiatives to pamper and purify the atmosphere in the pondok area with the tahfiz children. A total of 59 UMP students have participated in the effort to clean, paint, and cook. The UMP Foundation also took the opportunity to contribute food aid and painting tools since this hut area suffered a flood disaster.



The UMP Foundation received an infak donation of 32,000 copies of al-Quran and Fardhu Ain (KAFA) training books worth RM200,000.00 as a result of the cooperation of SME Corporation Malaysia and Fateh Resources Holdings Sdn. Bhd. which is the sole distributor of KAFA religious books as well as Fargoes Sdn. Bhd. More than 4,000 preschool and primary school students around the state of Pahang, especially in the Pekan district, will receive benefits throughout the implementation period of the Recovery Movement Control Order (MCO).

Disaster Cluster

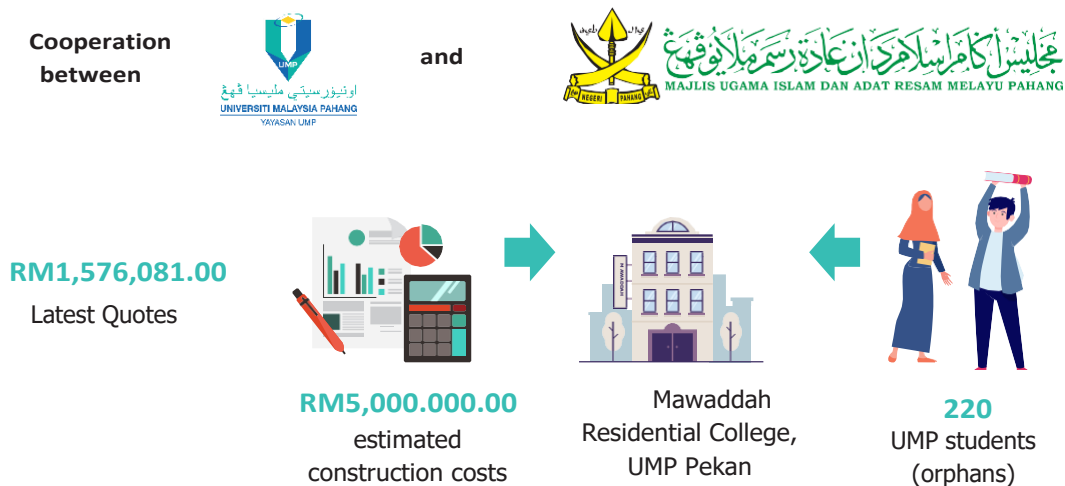
Diagram 1.5: Summary of Flood Disaster Reports from January 3 to February 15, 2021 and 21 to 31 December 2021



Mawaddah Residential College Endowment



Figure 1.6: Details of Mawaddah College



UMP Foundation Programs

Table 1.3: List of UMP Foundation Talk Programs in 2021

NO.	PROGRAM	DATE	PLACE
1.	<i>Forum Secawan Kopi Inspirasi Dikongsi: Akademik dan Kokurikulum</i>	April 11, 2021	Online
2.	<i>Titipan Hasrat Pengerusi Yayasan UMP bersama 250 Penerima Zakat</i>	June 17, 2021	
3.	<i>Program Titipan Hasrat 'Dunia Milik Anda'</i>	June 18, 2021	
4.	<i>Program Titipan Hasrat Penerima Biasiswa Bersama Timbalan Pengerusi</i>	October 12, 2021	
5.	<i>Program Entrepreneur Talk: Where It All Started bersama Dato' Alha Alfa</i>	November 7, 2021	

Memorandum of Agreement (MoA)

Table 1.4: List of Memorandum of Agreement (MoU) Year 2021

NO.	PROGRAM	DATE	PLACE
1.	MoU between UMP Foundation and UCT Solutions Sdn. Bhd.	October 23, 2021	Zenith Hotel, Kuantan
2.	MoU between the UMP Foundation and the Company Aquatwo Sdn. Bhd.	November 22, 2021	Hyatt Hotel, Kuantan



UMP Foundation's New Initiative to Collect Funds

Yayasan UMP's strategic collaboration with Syarikat Aquatwo Sdn. Bhd. in raising funds for the purpose of education, research and increasing student welfare assistance at UMP. Ahead of UMP's 20th anniversary celebration, UMP will launch a special registration number special serial number 'UC' 1 up to 'UC' 9999 which can only be offered to the public as a bid after the gazetting process has been completed.

2 ZERO HUNGER



Welfare Assistance

Table 2.1: Student Welfare Assistance, Department of Student Affairs (JHEP) in 2021

ZAKAT		SELF SUPPORT FOR NON-MUSLIM		FOOD HELP & MONEY FOR DIFFICULT STUDENTS		DISASTER ASSISTANCE	
RM 731,900.00		RM 163,850.00		RM 90,000.00		RM 6,500.00	
Zakat fund	1,483 recipient	Welfare Fund	419 recipient	Student Resident Fund	600 recipient	Student Welfare Fund	10 recipient
ONE-OFF STATE GOVERNMENT		COMPUTER UMP FOUNDATION		COMPUTER TUNKU ABDUL RAHMAN FOUNDATION (YTAR)		COMPUTER LOAN SCHEME	
RM 120,750.00	RM 39,300.00	RM 105,000.00		Foundation Tunku Abdul Rahman (YTAR)	25 recipient	UMP Foundation	31 recipient
Johor Foundation	Sabah	UMP Foundation	70 recipient				
805 recipient	131 recipient						
COVID-19 HELP INCENTIVE (POSITIVE STUDENTS)		FOOD AND DRINK ASSISTANCE FOR QUARANTINED STUDENTS		CAMPUS PANTRY EXTERNAL AGENCIES (READY FOOD PACKS)		CONTRIBUTION FOR THE MOTHER OR FATHER OF A STUDENT WHO DIED DUE TO COVID-19	
UMP Foundation	UMP Foundation Welfare	RM 140,344.00		Selangor State Government	Malaysian Islamic Economic Development Foundation (YaPEIM)	UMP Foundation	UMP Foundation Welfare
RM 37,400.00		Student Resident Fund and Welfare Fund for Student	1,114 recipient	213 recipient	451 recipient	RM 3,850.00	
187 recipient						11 recipient	



3 GOOD HEALTH AND WELL-BEING



University Health Center (PKU)

Management of COVID-19 at UMP

Diagram 3.1: Management of COVID-19 at UMP

1. Status of COVID-19 cases at UMP
2. Pandemic management discussion with the Kuantan District Health Center and the Use, storage and distribution of Personal Protective Equipment (PPE) Town in PKU
3. Changes in the work environment of PKU during the pandemic
4. Audit of compliance with the SOP of COVID-19 at PKU
5. The health screening process of students returning to campus



Diagram 3.2: Details of the Status of COVID-19 Cases in 2021

255	89	166
Total Number of COVID-19 Cases	Total Staff	Number of Students

Pandemic Management Discussion with the Kuantan and Pekan District Health Centers

- Several discussions were held with PKD Pekan and PKD Kuantan as a joint effort to prevent and control the outbreak of COVID-19.
- Enlightenment on the latest SOPs is also done as SOPs and circulars change frequently.



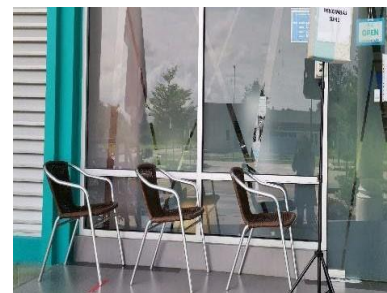
Use, Storage and Distribution of Personal Protective Equipment (PPE) at PKU

- The purchase of emergency procurement is done by PKU and distributed as needed to the Responsibility Center (PTJ) or the faculty in need.
- Purchases include Personal Protective Equipment (PPE), hand sanitizer, and face masks.



Changes in the PKU Work Environment During the Pandemic

- UMP citizens are required to wear face masks and hand sanitiser.
- A health screening is performed before patients are allowed to enter the health premises.
- Symptomatic patients are treated at the treatment counter outside the clinic.



Audit of compliance with SOP COVID-19 at PKU

- Compliance audit of SOP CoViD-19 is done periodically – once a month
- Compliance posters and signs are posted at various strategic locations
- Social distancing signs are posted in appropriate places, and compliance is ensured



Diagram 3.3: Total Health Screening of Students Returning to Campus in 2021

March	3,712 students	May	1,841 students
August	11 students	October	6,032 students

Vaccination Center (PPV)



Table 3.1: UMP's collaboration with various agencies for the provision of vaccines in 2021

	Public PPV	PPV OUTREACH	PPV Integration
Agency	<ul style="list-style-type: none"> • Pekan District Health Center 	<ul style="list-style-type: none"> • Office of the Secretary to the Government (SUK) of Pahang • Pahang Medical Center 	<ul style="list-style-type: none"> • COVID-19 Immunization Special Task Force (CITF) • Halim Nor Clinic • Rahimi Clinic
Date	June 14 to August 25 2021	Dose 1: August 16 to 17, 2021 Dose 2: August 29, September 6 to 7, 2021	Dose 1: September 8 to 13, 2021 Dose 2: October 3, 2021
Place	<ul style="list-style-type: none"> • Hall of DRB Hicom University of Automotive Malaysia (DHUAM), Pekan • Hall of MARA Skills Institute, Tan Sri Yahaya Ahmad (IKM TSYA), Town 	Dewan Serbaguna, UMP Pekan	
Amount Cumulative	-	4,182	2,510

“Komuniti Sihat Pembina Negara” (KOSPEN)

Healthy Communities, Building the Nation

This program is an initiative of the Ministry of Health Malaysia in line with the World Health Organization.

- | | | | |
|---|--------------------------|---|------------------|
| 1 | Healthy Eating Practices | 5 | Health Screening |
| 2 | Non-Smoking Practices | 6 | Healthy Mind |
| 3 | Active Living | 7 | OSH Intervention |
| 4 | Weight Management | | |

Table 3.2: KOSPEN Activities in 2021

NO.	PROGRAM	DATE
1.	KOSPEN PKU <i>Riadah Harian</i>	Year-round
2.	KOSPEN PKU Virtual 5 km Run and 10 K Walk	11 to 17 October 2021

Blood donation



Table 3.3: Details of Blood Donation Program Year 2021

	59 Donor	120 Donor	121 Donor
Date	January 13, 2021	November 17, 2021	December 15, 2021
Place	Student Activity Center, UMP Pekan		Block W Foyer, UMP Gambang

Vaccination status of UMP students

Chart 3.1: UMP Student Vaccination Status in 2021 from the Department of Student Affairs (JHEP)



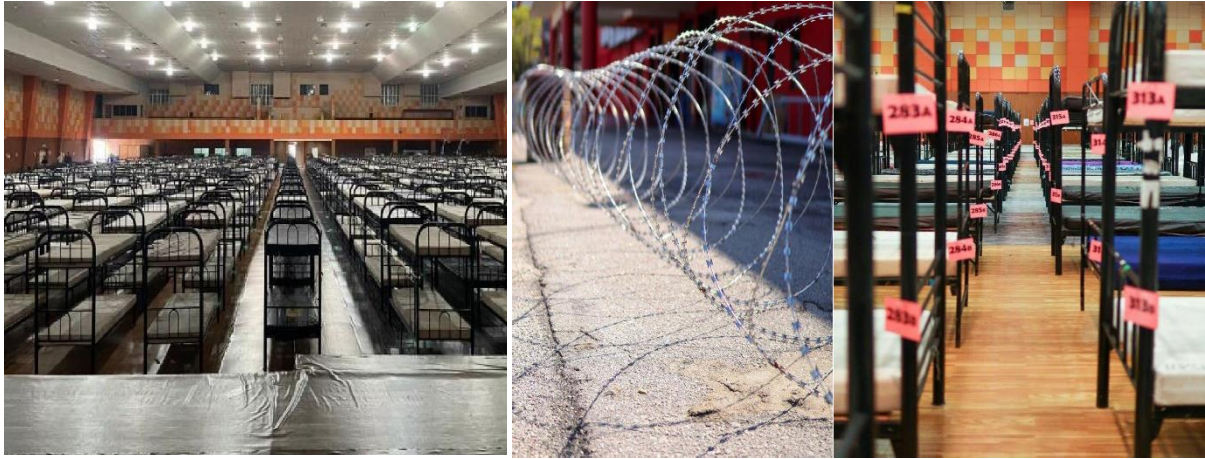
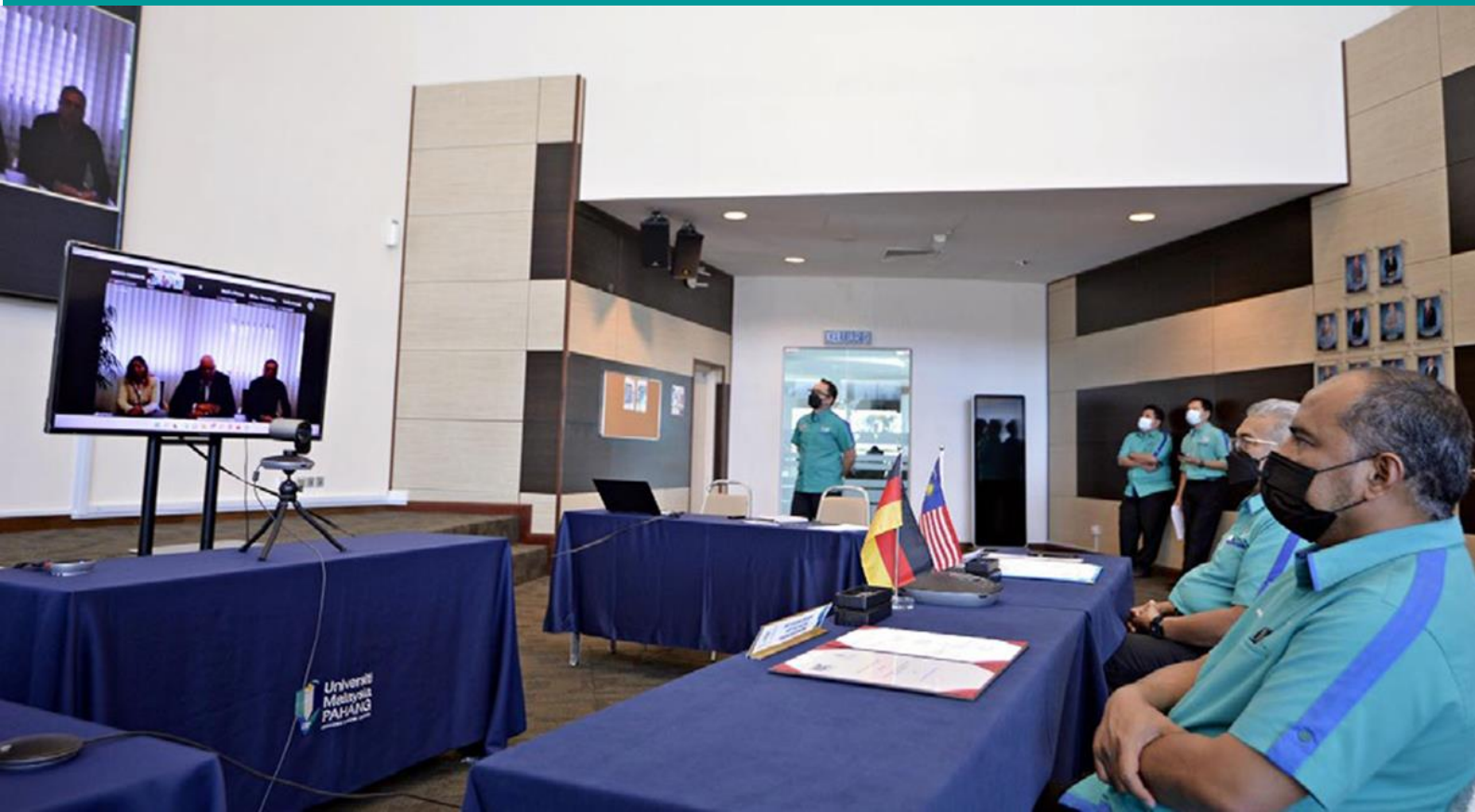


Diagram 3.4: Details of UMP's COVID-19 Quarantine and Treatment Center (PKRC).

<div>13,419</div> <div>Number of Patients</div>	<div>12,793</div> <div>Total Discharge</div>	<div>625</div> <div>Number of Patients in Hospital</div>
OPERATION	CAPACITY	CRITERIA
<div>Location: Sports Complex Hall, UMP Gambang Campus</div> <div>Date: June 1, 2021, to 4 January 2022</div>	<div>1,380 patients (690 bunk beds)</div>	<div><ul style="list-style-type: none">Male patients onlyCategory 1 (no symptoms) and category 2 (mild symptoms)Less than 60 years old and able to move</div>

4 QUALITY EDUCATION



High Level TVET

Holistic Graduate

The first thrust is the production of holistic graduates who are physically, emotionally, spiritually, intellectually and socially balanced. This holistic student development is done through learning in and out of college. There are four key performance indicators to measure holistic graduate success.

- 1 Employability of undergraduate graduates;
- 2 Minimum achievement of iPNK graduate abilities for undergraduate graduates;
- 3 Minimum achievement of sPNK scholarship abilities for postgraduate graduates; and
- 4 Undergraduate Students who get an Open Specialization Program Certificate.

Graduate Employability (GE)

Graduate employability (GE) increased from 92.03% in 2020 to 96.04% in 2021.

Diagram 4.1: GE Achievements in 2021

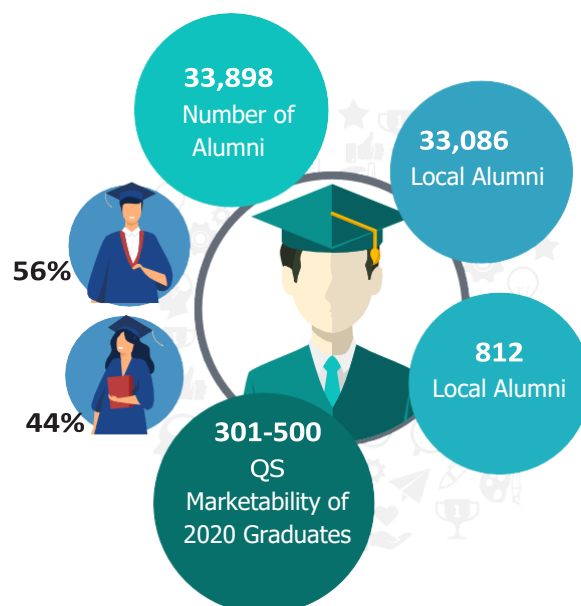
90%
Target

96.04%
Achieve



Alumni Relations and Graduate Marketability

Diagram 4.2: Details of Alumni Statistics Year 2021



Source: QS Graduate Employability Rankings 2021

Student Enrollment

Diagram 4.3: Enrollment of Undergraduate Students in 2021

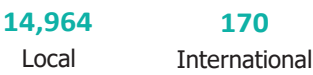
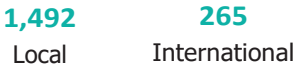


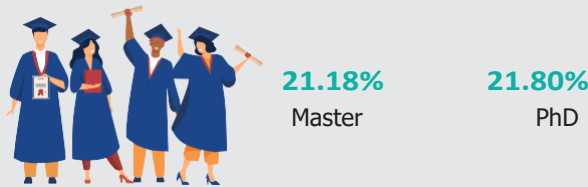
Diagram 4.4: Enrollment of Postgraduate Students in 2021



Graduate Student

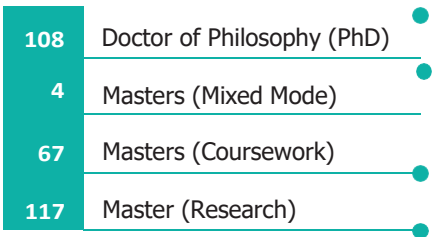
Intake Graduate on Time (IGOT) is an initiative created by the Ministry of Education and Culture to ensure that students can graduate within the stipulated time. IGOT will also assist universities in improving the effectiveness of academic operations.

Picture Figure 16: Percentage of Postgraduate Students who Achieve Status *Intake Graduate on Time* (IGOT)



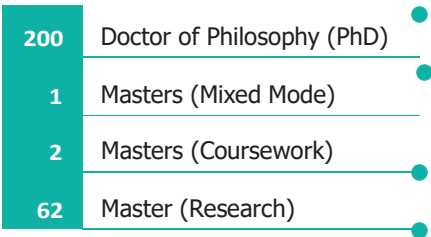
The number of postgraduate program graduates is 296 in 2021.

Diagram 4.5: Number of Postgraduate Program Graduates



The total enrollment of international students in 2021 is 265.

Diagram 4.6: Total Enrollment of International Students at IPS Year 2021



Total enrollment numbers for postgraduate students in 2021 is as many as 1,832.

Diagram 4.7: Total Enrollment Number for Postgraduate Students at UMP

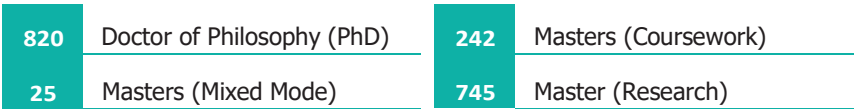


Diagram 4.8: Number of DRS and MRS Scholarship Scheme Slots Offered in 2021



UMP has offered a Scholarship Scheme known as the Doctoral Research Scheme (DRS), offered to PhD students, and the Master Research Scheme (MRS), offered to undergraduate students. The offer of this Scholarship Scheme is aimed at increasing the academic efficiency of the Institute of Graduate Studies (IPS), especially in an effort to attract the best students, produce quality journals, and increase the number of students who achieve Intake Graduate on Time (IGOT) status.

Academics with the Community

The second core of high-level TVET excellence is Community-Based Academics. In this context, it focuses on the involvement of communities such as alumni, industry, local and international communities. The importance of academia and society is to reduce the gap between the abilities of graduates who meet the needs of industry and the abilities of students built in universities. There are four key performance indicators to measure Academic Co-Community success.

- 1 Students from industry;
- 2 Degree programs with international universities;
- 3 Community-driven academic programs; and
- 4 Digitization of university academic content

Student Industrial Training

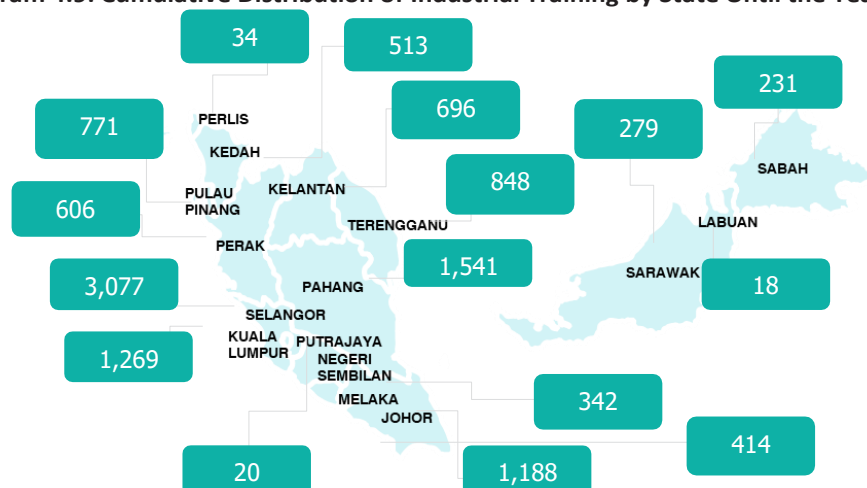
Industry training give opportunities for students to practice and applying what they learn at University to the real situation



The number of students who underwent industrial training from 2011 to 2021

23,840

Diagram 4.9: Cumulative Distribution of Industrial Training by State Until the Year 2021



Global Classroom (GC)

PSPe collaborates with the Collaborative Open Online learning (COIL) from SUNY COIL based at the State University of New York (USA) and also Kansai University, known as KU COIL (Japan), as well as other collaboration partners such as BINUS University.

Until December 2021, 61 webinars and GC series have been conducted in collaboration with international universities such as Indonesia, Japan, the United Kingdom, and Norway. This initiative further expands the international collaboration network of UMP academics with foreign experts.

Diagram 4.10: GC Achievements Year 2021

1,717

The number of students inside and outside UMP



3	2	Faculty of Computing (FK)	1	Faculty of Chemical and Process Engineering Technology (FTKCP)
14	2	Faculty of Industrial Science and Technology (FSTI)	6	Faculty of Civil Engineering Technology (FTKA)
8		Faculty of Industrial Management (FPI)	3	College of Engineering (KKEJ)
1		Faculty of Electrical and Electronic Engineering Technology (FTKEE)	4	Center of Modern Language (PBM)
3		Faculty of Engineering Technology Mechanical and Automotive (FTKMA)	6	Center of Mathematical Sciences (PSM)
Guidance:		GC Basic	GC standard	

Table 4.1: Online GC Activities in 2021

NO.	PROGRAM	DATE
1.	Webinar: International Environmental Conversation	May 27, 2021
2.	Webinar and Global Classroom Sharing Session: Toxicological Effects of Microplastics on Aquatic Organisms	November 11, 2021
3.	Webinar and Global Classroom Sharing Session: Resources Management in Construction Industry	December 13, 2021
4.	Webinar and Global Classroom Sharing Session: Sine and Cosine Law	December 29, 2021

ECERDC



UMP through UMP Advanced has been trusted by the East Coast Economic Region Development Council (ECERDC) to implement a training and skills enhancement program called PENJANA-ECERDC to empower communities in the East Coast Region covering Kelantan, Terengganu, Pahang, and the Mersing district in Johor. The participants will go through an intensive training phase, on-job-training (OJT), and then be placed in selected companies.

Chart 4.1: Details of Entrepreneurship and Skills Training Participant Programs from 2012 to 2021

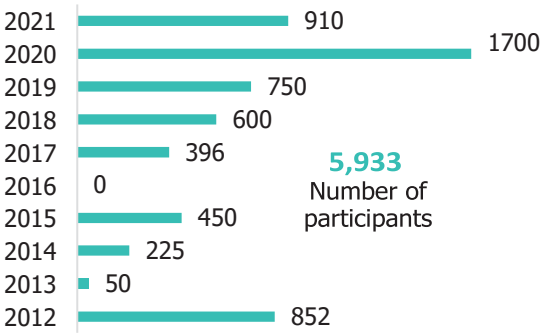


Diagram 4.11: Achievement of Job Placement and Giving birth to Entrepreneurs in 2021

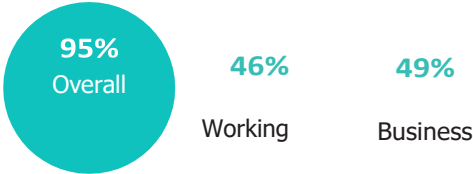
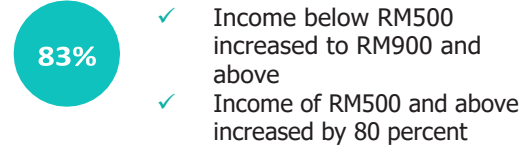


Diagram 4.12: Achievement of Income Increase in 2021



NCER

UMP Advanced has been trusted by NCER to implement the JomNiaga@NCER Program. This program is a skills and entrepreneurship training program inspired by the Northern Corridor Implementation Authority (NCIA) to improve the economy among the communities in the Northern Corridor Region, namely in the states of Perak, Penang, Kedah, and Perlis. This program is one of the government's efforts to help restore the economy and produce competitive entrepreneurs by using the medium of online marketing as a key element in the post-Pandemic era of COVID-19.



- ✓ Focus on Category B40
- ✓ 1,850 participants
- ✓ Skills and Entrepreneurship Training for One Month
- ✓ Successful Entrepreneurs

Chart 4.2: Details of the Skills and Entrepreneurship Training Program 2019-2021(empowerNCER)

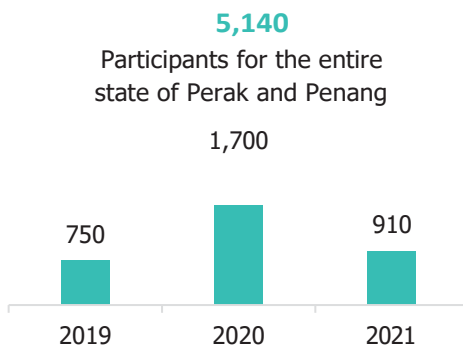
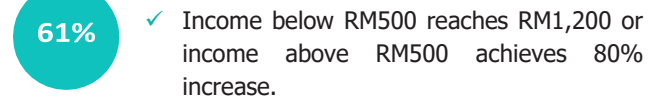


Diagram 4.13: Achievement of Job Placement and Giving birth to Entrepreneurs in 2021



Picture Diagram 4.14: Achievement of Income Increase in 2021



5 GENDER
EQUALITY



Gender Equality

Students and Staff

Women have equal opportunities to further their studies at UMP as well as to be an academic staff at UMP.

Diagram 5.1: Gender population in diploma

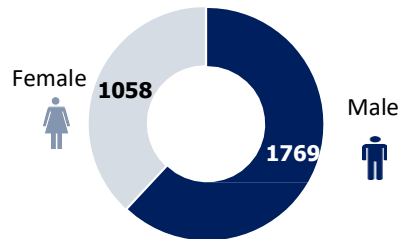


Diagram 5.2: Gender population in bachelor

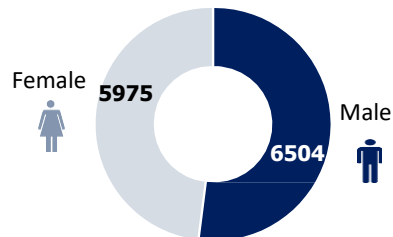


Diagram 5.3: Gender population in Master

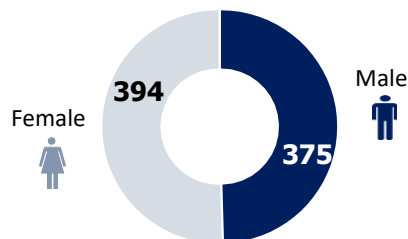


Diagram 5.4: Gender population in Doctor of Philosophy

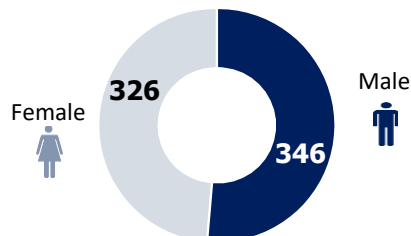
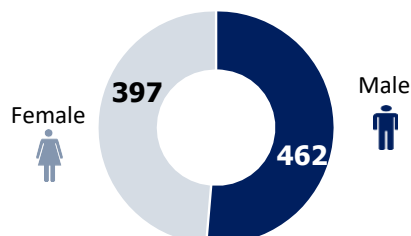


Diagram 5.5: Academic staff according to Gender population



6 CLEAN WATER
AND SANITATION



Water Conservation

Smart Irrigation System

The smart irrigation system is used to control the pumps according to the water level and the ground surrounding temperature. The system has three operation modes: local control mode, mobile monitoring control mode, and fuzzy logic-based control mode. Any water pump size can be incorporated into the system, and it does not affect the system's performance.



Figure 6.1: Smart Irrigation System

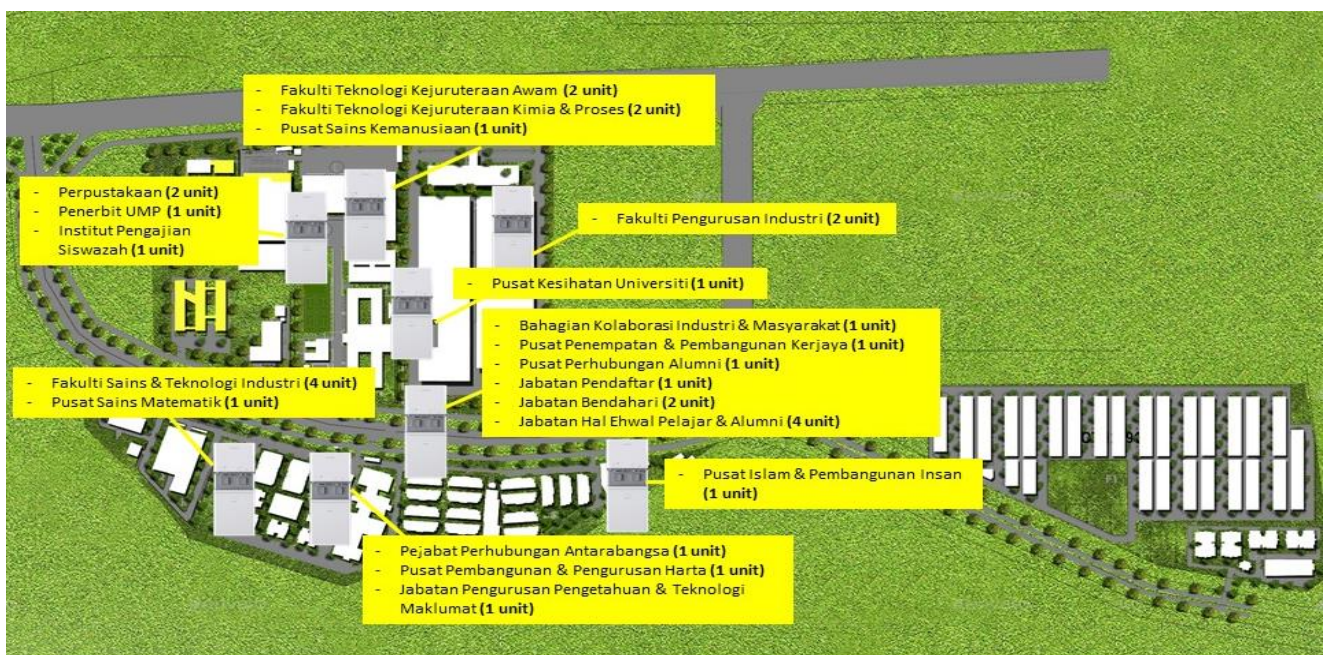
Drinking Water

UMP provides free drinking water for students, staff, and visitors. There are numerous locations equipped with free drinking water. The water from the main supply is treated before being supplied as drinking water.

Figure 6.2: Drinking water supplies at UMP Pekan



Figure 6.3: Drinking water supplies at UMP Gambang



Rainwater Harvesting System

Most of the buildings at UMP are equipped with Rainwater Harvesting System for general purposes and plant irrigation. From 2012 to 2021, 19 tanks were installed with a total capacity of 7930 gallons. An additional 10 tanks will be installed in 2022.

Table 6.1: Rainwater Harvesting Installation

NO.	LOCATION	TANK CAPACITY (GALLONS)	TANK QTY	TOTAL TANK CAPACITY (GALLONS)	YEAR INSTALLED
1	FTKPM	5000	1	5000	2012
2	RUMAH 40	20	10	200	2016
3	RUMAH KAYAK	90	1	90	2016
4	TASKA	90	1	90	2017
5	DUSUN	500	3	1500	2018
6	SURAU TASI	200	1	200	2017
7	TEACHING FACTORY	350	1	350	2018
8	PEJABAT LANDSKAP BAJA KOMPOS	500	1	500	2019
9	CTAR, FTKEE, DEWAN, FKOM, PEJ LANDSKAP, PEJ PPPH	20	10	200	Will be installed in 2022

Water Management Educational Opportunities

Table 6.2: Water Management Educational Opportunities

PROGRAM	DATE	COLLABORATOR	DESCRIPTION
Training Of Wastewater Treatment System for Ky Global Sdn Bhd	March 2020 – March 2021	<ul style="list-style-type: none"> Mistry of Higher Education, Malaysia 	This project is under the KTP Lifelong Learning, providing training to KY Global Sdn Bhd, the engineering and technology company services for oil and gas in water and wastewater treatment. This project aims to provide educational opportunities for KY Global Sdn Bhd workers through the knowledge transfer program.

Water Conservation Activities

Table 6.3: Water Conservation Activities

PROGRAM	DATE
Energy Security and Chemical Engineering Congress Theme: Sustainable Technological Solution for Better World	3 November 2021
MUCET2021 - Sustainable Engineering & Technology Towards IR 4.0	16 November 2021
UMP Commitment Towards the Sustainable Development Goals (SDG)	22 November 2021

7 AFFORDABLE AND
CLEAN ENERGY



Affordable And Clean Energy

Energy Efficiency

Universiti Malaysia Pahang (UMP) has implemented several initiatives on building upgrading for high energy efficiency in line with *Pelan Kampus Lestari*. UMP has a certified energy manager for energy efficiency implementation and monitoring.

Building With Ventilation Bricks

The ventilation brick is used for the new mosque building at UMP. The installation of air bricks allows air to flow under the floorboards, helping to regulate temperature and thus minimise the usage of energy for cooling down purposes.



Energy-Efficient Initiatives

Energy-saving Light / LED has been installed widely in UMP Pekan, Hostels, Offices, Street lights, and compound lights. Additionally, the existing bulb has been replaced with energy-saving bulbs or lanterns.

Table 7.1: List of initiatives that have been taken by UMP to reduce energy by using Efficient Appliances

UMP PEKAN CAMPUS			
INITIATIVES	NUMBERS	ESTIMATED KWH SAVING PER MONTH	
1	Replacement of Energy-Saving Light bulbs for main road street lighting and compound lighting at Faculty of Electric & Electronics & Faculty of Mechanical Engineering, UMP Pekan	372	41,555.20
2	LED compound lighting for jogging track in UMP Pekan	80	5,472.00
3	Replacement of T8 to T5 fluorescent tubes for corridors and walkways at Faculty of Electric & Electronics, UMP Pekan	454	1,307.52
4	Replacement of T8 to T5 tubes for corridors and walkways at Faculty of Mechanical Engineering, UMP Pekan	895	2,577.60
5	Replacement of T8 to T5 tubes (Hostel) for building, corridors, and walkways at UMP Hostel Pekan	3762	40,629.60

6	Replacement of T8 to T5 tubes (hostel 1400) for building, corridors and walkways at UMP Hostel Pekan	6889	33,067.20
7	Replacement of electric light bulbs for main road street lighting and compound lighting at Hostel UMP Pekan	178	12,175.20
8	Replacement of T8 to T5 tubes at Administration Block of Faculty of Mechanical Engineering and Faculty of Electric & Electronics, UMP Pekan	1542	4,440.96
9	Replacement of T8 to LED tubes at UMP Students Hostel, UMP Pekan	610	6,588.00
10	Installation of 20-kW roof-top solar panels (Monocrystalline & Polycrystalline) at Administration Block, Faculty of Mechanical Engineering, UMP Pekan	20kW	3,870.00
11	Replacement of conventional to LED bulbs at Faculty of Manufacturing, UMP	133	3,351.60
12	Upgrading of the street and compound lighting for Pekan Library Area	40	4,464.00
13	Installation of light motion sensors at toilets in UMP Pekan	100	3,744.20
14	Upgrading from conventional lights to energy-efficient lights in CTAR, UMP Pekan	64	3,778.60
15	Upgrading from conventional to energy-savings bulbs (1400) in Blocks H and I, UMP Pekan	1500	16,210.00
16	Installation of PV panels in all gazebo units	20	1,070.00
17	Installation of solar-powered LED lights with motion sensors	10	2,160.00
21	Installation of solar-powered LED lights with motion sensors	10	2,160.00
22	Installation of motion sensor and energy saving light, LED 18W at Sports Hall, UMP Pekan	15	4,500.00
23	Retrofitting conventional light to LED 18W light at Library, UMP Pekan	1000	10,800.00
24	2 nd phase Installation of light motion sensors at toilets in UMP Pekan that controlled lighting & exhaust fan	83	3,888.00

UMP GAMBANG CAMPUS

INITIATIVES		NUMBERS	ESTIMATED KWH SAVING PER MONTH
1	Replacement of T8 to T5 fluorescent tubes in UMP Gambang: Block B5 KPU and UMPH Block B1, A1-A3, Block C1-C8, Block C9-C15	12,850	48,061.63
2	Installation of PV panels in all gazebo units	20	1,070.00
3	Installation of solar-powered LED lights with motion sensors	10	2,160.00
4	Upgrading from metal halides to LED light in high-bay area in FKKSA Laboratory Area, UMP Gambang (400W to 190W)	58 Nos	6,222.33

Renewable Energy Sources

Table 7.2: Renewable Energy Sources

NO.	BUILDING/AREA	TYPE OF RENEWABLE ENERGY	YEAR INSTALLED	CAPACITY, KW	KWH PRODUCE YEAR 2021-2022
1	FTKMA & FTKEE	Solar system	2016	21kW	30,248 kWh
2	Solar KP House	Solar system	2018	5kW	5,400 kWh
3	Entrance Guard House	Wind power	2012	22kW	-
4	FKKSA	Biodiesel	2007	30 Litre Biodiesel per 50 Litre cooking oil	-
5	Walkaway	Solar System	2019	2.4kW- off grid	4,380 kWh
6.	Wakf Hut	Solar System	2021	2kW	3,650 kWh
7.	Sea-Lite	Combine heat and power	2022	0.02kW	175.2 kWh
8.	Pico Hydro	Hydro Power	2022	0.015kW	32.85 kWh
9.	FTKMA & FTKEE	Wind Power	2021	250W 250W 800W	9,490 kWh
10.	FTKEE	Solar System	Will be installed in 2022	0.5kW	912.5kWh
TOTAL					54,288 kWh

Program related with Sustainability Energy

Table 7.3: Energy Efficiency Program

	PROGRAM	DATE
1.	Massive Open Online Course (MOOC) on Sustainability Campus. MYSUN: Bringing Future Campus Today	-
2.	Energy Security and Chemical Engineering Congress Theme: Sustainable Technological Solution for Better World	3 November 2021
3.	MUCET2021 - Sustainable Engineering & Technology Towards IR 4.0	16 November 2021
4.	UMP Commitment Towards the Sustainable Development Goals (SDG)	22 November 2021
5.	Roundtable Discussion with stakeholders on Sustainability, Energy Efficiency and Green Campus	28 December 2021

8 DECENT WORK AND
ECONOMIC GROWTH



Financial Sustainability

Strengthening Financial Resources

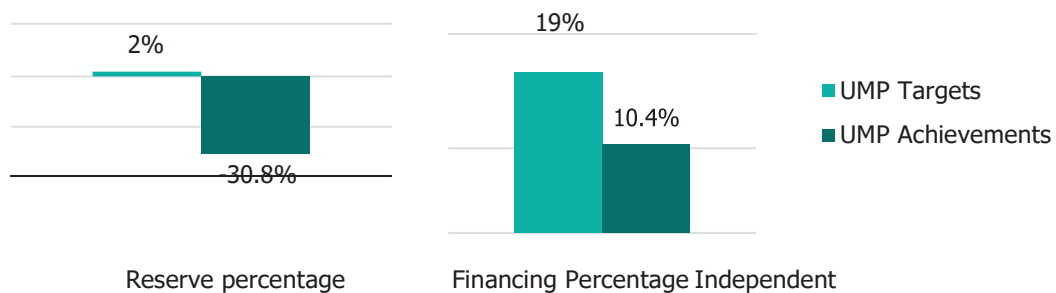
The first core focuses on UMP's financial strength through increased reserves and increased self-financing capabilities through a social entrepreneurship approach. Accordingly, these two things have been set as the main performance indicators for strengthening UMP's financial resources.

- 1 Increased reserves; and
- 2 Operating budget based on social entrepreneurship approach.

An increase in university reserves refers to UMP's ability to increase reserves. It can be implemented through measures to save operating expenses and increase the internal results of the university. Percentage of self-financing Increased reserves - The social entrepreneurship approach refers to the self-financing social operations approach.

For 2021, the reserve reduction percentage is 30.8 percent compared to the target set by the university. This is due to the restriction of allocation implemented by the government for the annual allocation, the student fee discounts, and the reduction of income generation. While the percentage of self-financing is 10.4 percent compared to the target set by the university, which is 19 percent.

Chart 8.1: Strengthening UMP's Financial Resources in 2021

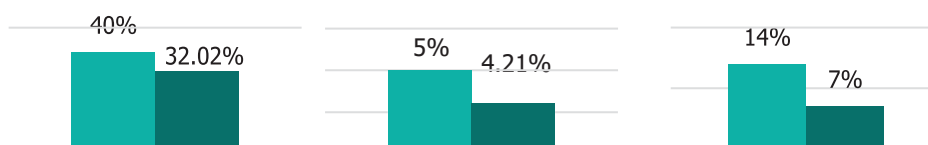


Reasonable Operational Efficiency

In this context, operational efficiency is seen from the point of view of the ability to reduce operational costs for each student without compromising reasonable service quality. This can be achieved by adopting innovative and efficient work processes. There are two key performance indicators to measure operational efficiency, namely cost reduction per student and maximizing return on UMP capacity.

- 1 Reduced cost per student; and
- 2 Increased return on capacity.

Chart 8.2: Strengthening UMP's Financial Resources in 2021



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Innovation with Industry Collaboration

Technical Training with Industry

The first thrust is to provide training to the industry by using the expertise and technology owned by UMP. On the other hand, industry expertise will also be shared with UMP citizens. Key performance indicators are:

- 1 Industry or agency workers who follow technical training by UMP academic staff; and
- 2 Academic staff or UMP students who are following industrial-run technical training.

Cooperation to Upgrade Industrial Technical Capabilities

Apart from technical training, in order to achieve the sustainability of collaboration between UMP and industry, collaboration with industry will also be built to improve the technical capabilities of industry by using the expertise and technology owned by UMP academics. The increase in technical capability can be seen when the industry has changed from using existing technology to technology transferred from UMP's expertise and benefiting from the transfer. This is achieved by driving two key performance indicators as follows:

- 1 Project to upgrade community technology capabilities by UMP (Made in UMP); and
- 2 Academic staff who have a UMP-Industry matching grant.

Industrial Innovation



Books Innovation @ UMP 2nd Edition

Through the rebranding of the Center of Excellence or Center of Excellence (CoE), the CoE's focus is on leading research activities that are more focused on their respective thrust areas. Through these, training, consulting, publishing and student development services are focused on those areas of thrust. This book focuses more on the activities of research, consultation and industry collaboration that have been and are being carried out that contribute to the generation of income for each CoE.

Self-guided SCAV Bus for Campus Residents



Courtesy visit by the Chairman of the University Board of Directors (LPU), Tan Sri Dato' Sri Dr. Abdul Aziz Abdul Rahman, to the SCAV Laboratory to see the Swapandu Bus or SCAV Automous Bus on December 9, 2021, UMP Pekan

This project is led by the Dean of UMP Industrial Innovation, Associate Professor Dr. Abdul Adam Abdullah, in collaboration with researchers from the Faculty of Manufacturing and Mechatronics Engineering Technology (FTKPM), the Faculty of Mechanical and Automotive Engineering Technology (FTKMA), the Faculty of Electrical and Electronics Engineering Technology (FTKEE), the Faculty of Computing (FK) and the College of Engineering (KKEJ). By having various expertise in the field of Engineering and Technology, UMP researchers developed a bus called Smart Campus Autonomous Vehicle (SCAV). It is equipped with various sensors and computers with smart technology to move from one destination to another by itself through the control of a computer system equipped with traffic info. In addition, the university has also established an Autonomous Vehicle Laboratory under the Automotive Engineering Center (AEC), which enables construction and development work to be carried out.



Friendly Session of the Chairman of the University Board of Directors (LPU) with the UMP Center of Excellence (CoE).

Table 9.1: Programs Related to Initiatives and Industrial Innovation Programs in 2021

NO.	PROGRAM	DATE	PLACE
1.	MTSFB's Industry Promotion and Development Grant Award Presentation Ceremony (IPDG) 2020	March 1, 2021	Online
2.	Workshop on Product Development Grant (PDU)	March 19, 2021	Tun Fatimah Hall, UMP Gambang Campus

NO.	PROGRAM	DATE	PLACE
3.	Letter of Appointment (LOA) Submission Ceremony and Opening of the Industrial Skills Training Program - ECRL (ECRL-MRL-CCCCM)	April 5, 2021	Hotel Mangala, Gambang
4.	Sharing Slots: Product Development Grants and Made in UMP Grants by the Dean of Industrial Innovation, Associate Professor Dr. Abdul Adam Abdullah	August 12, 2021	Online
5.	Memorandum of Understanding (MoU) Council between UMP with the National Sports Institute (ISN)	September 15, 2021	National Sports Institute, Kuala Lumpur
6.	Visit from UMW Corporation Sdn. Bhd., UMW Innovation and R&D Center Sdn. Bhd. (UIRDC) and Lubetech Sdn. Bhd.	October 4, 2021	UMP Gambang Campus

Product Development Grant

Product Development Grant or PDU Grant is a grant created to produce prototypes or products that are capable of functioning by combining the expertise of internal researchers and existing components on the market. The prototype or product produced must meet the needs of the community, market and be able to solve universal problems. The total number of projects approved in 2021 is 29.

Industry Grants

UMP has received funds of RM1.5 million from industry and private companies. This shows an increase of 77 percent compared to 2020, which is as much as RM360 thousand. This high increase shows the trust of the industry and the private sector in the university in putting confidence in collaborating. The number of approved projects is 19.

International Grants

The increase in trust from international parties to the UMP's technology and expertise through international grant collaboration is very convincing. This can be proven through the increase in international grants received in 2021, amounting to RM2.3 million compared to RM960 thousand in 2020. The percentage increase is 58 percent, which is expected to increase in 2022 if the pandemic situation recovers, i.e. researchers can meet directly with colleagues abroad. The total number of projects is 10.

Matching Grant

The UMP Matching Grant is a grant created for researchers who successfully obtain research funding from international parties, industry and agencies to carry out research projects that contribute to the discovery of new ideas and knowledge transfer and focus on innovative and high-impact research. This grant can encourage research collaboration and UMP's involvement with external parties in university research projects, which will impact all parties.

The Department of Research and Innovation, together with the industry, will contribute to the research project, the financial source of which is a combination of funds from the university and the industry. This combination of funds is matching and through this initiative, it is hoped to encourage close relationships and sharing of collaboration and risk behind the success of a research project. The number of projects is 11, with an allocation of RM746,500.

Commercialization of Technical Products and Services

Product commercialization refers to engineering and technology activities that ultimately produce technology-based products that are acceptable in the open market. Service development refers to consulting services that require expertise based on engineering and technology that can be accepted in the open market. Technically based products and services, management products and services and social sciences are also taken into account to complement the service ecosystem. The measurement of this core success is done through two key performance indicators.

- 1 An academic staff entrepreneurial company that builds and markets products made by UMP (Technologists); and
- 2 Academic staff entrepreneurial company that offers specialist services to industry.

The year 2021 will see a more proactive approach to commercialization, i.e. commercialization initiatives focusing more on policy refinement and improvement. It is to create a more detailed guide for reference, development of more comprehensive guidelines and grant governance, more efficient management of intellectual property, provision of a more comprehensive commercialization ecosystem for supporting commercialization activities at UMP, as well as talent development among UMP lecturers and staff in the field of commercialization.

These initiatives were developed to intensify commercialization activities at UMP in line with UMP's desire to commercialize technology, products and service expertise through the discovery of new studies and high-impact research. The products are able to meet the needs of the market and industry, thus being benefited by the local community.

Commercialization Achievements



Overall, the UMP commercialization achievement for 2021 is measured through four key performance indicators.

- 1 Establishment of academic staff entrepreneurial
- 2 companies Number of Intellectual Property
- 3 commercialized Products commercialized
- 4 Income generation from Consulting and Technical Services

Establishment of Academic Staff Entrepreneurship Company

The Commercialization Office aims for more commercialization of technical products and services through the establishment of academic staff entrepreneurial companies that build and market UMP-made products (Technical Entrepreneurs) and offer expert services to the industry. Until 2021, a total of five Spin-Off Companies have been established through the commercialization of UMP technology or products.



It is targeted that as many as six academic staff entrepreneurial companies that build and market UMP-made products (Technologists) and offer expert services to the industry will be established in 2022 through the UMP25 Strategic Plan initiative.

Number of Commercialized Intellectual Property

Starting from the year 2016 until the year 2021, a total of 11 intellectual properties have been licensed and sold with a total income from licensing and technology sales of RM1,625,000.00.

In 2021, the Commercialization Office successfully commercialized intellectual property through Outright Sales of two patents to Eastern Unity Technology Sdn. Bhd. (EUT) through a technology sale agreement signed on 11 February 2021 involving the sale value of both patents amounting to RM1,300,000.00. The target of commercialized Intellectual Property is two technologies sold/licensed in 2022. The cumulative number of intellectual property to be commercialized is ten by 2025.

Commercialized Products

Until 2021, a total of 34 UMP research products have been successfully commercialized, with a total gross sales of RM7,079,965.62 recorded. This amount increased from the 31 products that were commercialized in 2020 with the cumulative gross sales recorded in that year being RM6,767,220.99.

Table 9.2: Projects That Have Recorded Commercialization Until 2021

NO.	PRODUCT	COLLECTED SALES
1.	Recycling of Base Oil from Spent Lubricant	RM1,980,955.03
2.	Pisoptera	RM1,862,854.70
3.	Pestkill	RM884,990.22
4.	Mandarin For All 2	RM241,548.75
5.	Mandarin For All 1	RM204,618.45
6.	DiaClean	RM199,894.00
7.	Emulsifiers	RM196,281.60
8.	Radiac	RM184,800.00
9.	G-Bricks	RM181,221.40
10.	Oudino	RM145,832.40
11.	Asarfonts	RM134,865.00
12.	Inulin	RM130,950.00
13.	Dr. Fur	RM124,000.00
14.	E-Anfun Sensor	RM112,666.20
15.	Boat Stem	RM74,000.00
16.	Germes Free 2.0	RM59,878.00
17.	Wrehab Device	RM59,620.00
18.	Cat Whiskers Extract	RM40,404.96
19.	Home Detergent	RM33,237.28
20.	Kinora: Natural Lip Balm	RM32,964.00
21.	Iszuani Hongo	RM31,369.60
22.	Inazuma Japan 1	RM26,853.00
23.	Grease	RM26,574.50
24.	Biofeedback	RM20,177.28
25.	Sleekpump	RM18,000.00
26.	Pre-Pecto	RM17,495.00
27.	Natural Antibacterial Hand Sanitizing Gel	RM15,796.00
28.	Bio Root Tongkat Ali Capsule	RM8,216.00
29.	Organic Fertilizer	RM7,895.00
30.	Nina Square Root	RM5,086.00
31.	Iszuani Hongo 1	RM5,070.00
32.	Electronic Wheelchair	RM3,575.00
33.	Agrisoft	RM3,510.00
34.	Kacip-Fatimah Based Supplements	RM2,795.00
35.	Merkit	RM1,981.00

UMP also successfully commercialized four new products in 2021 namely Biofeedback, Pre-Pecto, Bio Root Tongkat Ali Capsule and Iszuani Hongo 1 and generated an income of RM50,958.28.

Diagram 9.1: New Product Year 2021

<p>TOOLS BIOFEEDBACK (RM20,177.28)</p> <p>This Biofeedback product is a technology that uses the heart detection method. This Biofeedback device will be clipped to the student's earlobe and connected with biofeedback software to see the response on the computer screen.</p>	<p>PRODUCT PREPECTO (RM17,495.00)</p> <p>Prefecto is a formulated liquid fertilizer with prebiotics (special microbe nutrition for plants and soil ecosystems). Improving the content of nutritional value thus increasing the absorption of important nutrients by the entire plant.</p>
<p>ISZUANI HONGO1 (RM5,070.00)</p> <p>Iszuani Hongo is an interactive Japanese language software that is proven to minimize the level of obstacles and students' anxiety during the Japanese oral test by using the biofeedback technology approach as a measure.</p>	<p>PRODUCT BIO ROOT TONGKAT ALI CAPSULES (RM8,216.00)</p> <ul style="list-style-type: none"> Tongkat Ali Bio Root products contain wild and best Tongkat Ali roots obtained by Malaysian natives. Traditionally, Tongkat Ali is believed to be an aphrodisiac plant with scientific studies and even clinical trials proving it to increase energy and stamina, increase testosterone levels, overcome fatigue, improve blood circulation, increase muscle mass, and restore sexual libido. The Tongkat Ali Bio Root product is a KKM registered product (MAL KKM: 18096082TC) which is widely sold as herbal product after R&D&D was carried out at the UMP Laboratory.

Income Generation From Consulting and Technical Services

Diagram 9.2: Income Generation from Consulting and Technical Services

Results of Technical	159	RM1,527,405.06
Services Consultation	152	RM109,040.74



Commercialisation



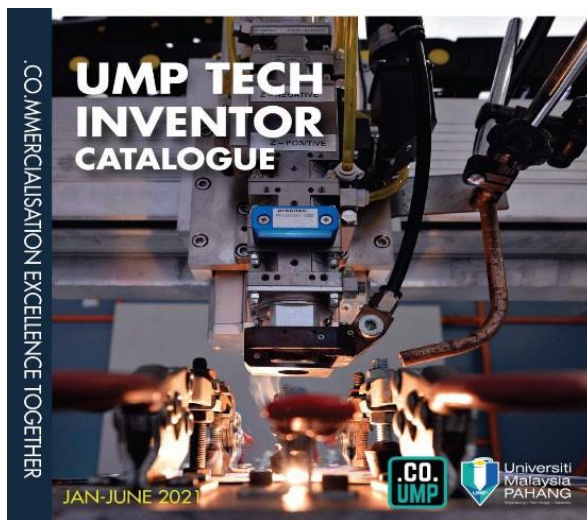
Awarding grants to researchers is one of the university's initiatives in empowering research, innovation and commercialization activities in an institution. For the Office of Commercialization, three main grants that have been allocated help in promoting university research results to commercialization.

- 1 Precommercialization Grant UMP
- 2 Lab2Market Grant
- 3 UMP Community Technology Solution Platform grant

Diagram 9.3: List of UMP Grants *Lab2Market*

RM91,773.79	<i>Herbal Scalp Care Shampoo</i> Dr. Rajaletchumy Veloo Kutty
RM182,000.00	<i>E-Lobster: Smart Water Quality System with Stream Data Analytics for Freshwater Lobster Commercial Farming</i> Professor Ir. Dr. Mohd Faizal Jamlos
RM67,000.00	<i>Inspection Technique for Non-Metallic Underground Piping</i> Associate Professor Ir. Dr. Mohd Fairusham Ghazali

UMP Tech: Inventor Catalogue Second Edition



UMP Tech: Inventor Catalogue - The Second Edition was published in June 2021 and contains 33 commercialized UMP products. The development of the Inventor Catalogue is one of the initiatives developed by the Commercialization Office aimed at introducing and marketing UMP's commercial products to the Industry and potential buyers.



Memorandum of Understanding (MoU) between UMP Renal Care Sdn. Bhd. with ADK Solution Sdn. Bhd.

Table 9.3: Programs Related to Initiatives and Commercialization Programs in 2021

NO.	PROGRAM	DATE
1.	Courtesy Visit Session to Pahang Go Sdn. Bhd.	February 23, 2021
2.	MTSFB's Industry Promotion and Development Award Presentation Ceremony Grant (IPDG) 2020(online)	March 1, 2021
3.	UMP Center of Excellence (CoE) Success Stories Reporting Workshop	March 23, 2021
4.	Workshop on Budgeting and Commercialization Office Operations	March 24, 2021
5.	Visit to Organic Peat Company Sdn. Bhd. for product commercialization Pre-Pecto & MSD Innovation Sdn. Bhd.	March 30, 2021
6.	Memorandum of Understanding (MoU) between UMP Renal Care Sdn. Bhd. with ADK Solution Sdn. Bhd	April 12, 2021
7.	Workshop for Non-Finance Inventors	April 6, 2021
8.	Honorable Visit Session to the Technology Depository Agency (TDA)	April 26, 2021
9.	Cash Flow Workshop	April 27, 2021
10.	2021 Caravan Trip UMP to Kingdom of Saudi Arabia	May 24, 2021
11.	SUPERB-Leading Winner Exhibition	October 23, 2021
12.	Visit to Fung Yuan Biotech Sdn. Bhd. and Enulintech Factory	December 15, 2021

Memorandum of Understanding (MoU), Memorandum of Agreement (MoA) and Non-Disclosure Agreement (N.A.)

Several agreements were signed by UMP in 2021 to increase cooperation in research and commercialization between industry and local and foreign institutions.

Table 9.4: Details of Industries Involved in the Memorandum of Understanding (MoU) with UMP

NO.	INDUSTRY OR INSTITUTION	RESPONSIBILITY CENTER (PTJ)
1.	Go Automobile Manufacturing Sdn. Bhd.	Faculty of Chemical Engineering Technology and Process (FTKKP)

Table 9.5: Details of Industries Involved in Memorandum of Agreement (MoA) with UMP

NO.	INDUSTRY OR INSTITUTION	RESPONSIBILITY CENTER (PTJ)
1.	Eastern Unity Technology Sdn. Bhd.	College of Engineering (KKEJ)
2.	Universiti Teknologi Malaysia (UTM), Universiti Tun Hussein Onn Malaysia (UTHM) and Universiti Teknologi Petronas (UTP)	
3.	Universiti Teknologi Malaysia (UTM), Universiti Teknologi Petronas (UTP) and Universiti Malaysia Sabah (UMS)	
4.	University of Technology MARA (UiTM)	
5.	Malaysia Technical Standards Forum Bhd.	Faculty of Electrical and Electronic Engineering Technology (FTKEE)
6.	Universiti Teknologi Malaysia (UTM), University of Malaysia Perlis (UniMAP) and Universiti Teknologi Malaysia (UTM)	
7.	YP Plantation Holdings Sdn. Bhd.	
8.	Malaysian Torey Science Foundation	Faculty of Industrial Science and Technology (FSTI)
9.	Universiti Teknologi Malaysia (UTM), Universiti Teknologi Petronas (UTP) and Universiti Putra Malaysia (UPM)	
10.	Universiti Teknologi MARA (UiTM), Universiti Teknologi Malaysia (UTM) and Universiti Malaysia Sarawak (UNIMAS)	Faculty of Mechanical and Automotive Engineering Technology (FTKMA)
11.	Universiti Teknologi Malaysia (UTM), University of Malaysia Perlis (UniMAP) and National Energy University (UNITEN)	Faculty of Engineering Technology Manufacturing and Mechatronics (FTKPM)
12.	Universiti Teknologi Malaysia (UTM), Universiti Teknologi Petronas (UTP) and Universiti Malaysia Sabah (UMS)	Faculty of Civil Engineering Technology (FTKA)
13.	Universiti Teknologi Malaysia (UTM), University of Malaysia Perlis (UniMAP) and Universiti Malaysia Kelantan (UMK)	Faculty of Chemical Engineering Technology and Process (FTKKP)

NO.	INDUSTRY OR INSTITUTION	RESPONSIBILITY CENTER (PTJ)
14.	Abad Sinergi Sdn. Bhd.	Faculty of Industrial Management (FPI)
15.	Malaysian Cocoa Board	Center for Bioaromatic Research
16.	Expert Scieno TW Sdn. Bhd.	Department of Research and Innovation

Table 9.6: Details of Industries Involved in *Non-Disclosure Agreement (NDA)* with UMP

NO.	INDUSTRY OR INSTITUTION	RESPONSIBILITY CENTER (PTJ)
1.	Peat Organic Sdn. Bhd.	Department of Research and Innovation

Exploration of High Impact Technologies



High-impact technology exploration refers to research initiatives that bring positive change to the community. This is done by producing new knowledge and technology (cutting-edge knowledge and technology). With the emergence of new knowledge and technology, a new market has the potential to be created that is capable of transforming the global prevalence of the implementation of a job.

Impactful research is also measured by the generation of new technologies. In this aspect, the generation of new technologies can be seen through the number of intellectual properties that are successfully licensed and applied and benefit the community. In addition, new technology also focuses on UMP's ability to produce technology that is the first in the world and is able to have a positive impact on society.

New Knowledge Generation

The first thrust set is research initiatives capable of generating new knowledge. This core focuses on scholarly publishing activities as a result of intensive research by academic staff as chief researchers together with talented postgraduate students.

- 1 Scientific publications and citations of each academic staff; and
- 2 External research grant project leader.

Research Publications and Citations

12 UMP Researchers Listed in the Top Two Percent Scientists in the World

A total of 12 Universiti Malaysia Pahang (UMP) lecturers are listed among the top two percent of scientists in the world in various fields and disciplines. This recognition refers to data from the 2021 Elsevier Database, Stanford University based in the United States.

- **Professor Dr. Jose Rajan**
Faculty of Industrial Science and Technology (FSTI)
- **Professor Dr. Rizalman Mamat**
College of Engineering (KKEJ)
- **Dr. Sudhakar Kumarasamy**
Faculty of Mechanical and Automotive Engineering Technology (FTKMA)
- **Professor Dato' Ts. Dr. Mr. Zularisam Wahid**
Faculty of Civil Engineering Technology (FTKA)
- **Professor Dr. Means Rahman Khan**
College of Engineering (KKEJ)
- **Associate Professor Dr. Wan Azmi Wan Hamzah**
College of Engineering (KKEJ)
- **Professor Ts. Dr. Kamal Zuhairi Zamli**
Faculty of Computing (FK)
- **Associate Professor Dr. Arafatur Rahman**
Faculty of Computing (FK)
- **Professor Ts. Dr. Mustafizur Rahman**
College of Engineering
- **Associate Professor Ir. Ts. Dr. Kumaran Kadirgama**
Faculty of Mechanical and Automotive Engineering Technology (FTKMA)
- **Ts. Dr. Norazlianie Sazali**
College of Engineering (KKEJ)
- **The late Professor Dato' Dr. Mashita Mohd. Yusoff.**

UMP Leads in the Field Weighted Citation Impact (FWCI)

Based on Elsevier sources, for Field Weighted Citation Impact (FWCI), UMP leads with a score of 1.16 followed by Universiti Teknikal Malaysia Melaka (UTeM), Universiti Malaysia Perlis (UniMAP) and Universiti Tun Hussein Onn Malaysia (UTHM). This shows that the articles published by UMP researchers are of high quality and high impact.

Chart 9.1: University Score under MTUN Year 2021

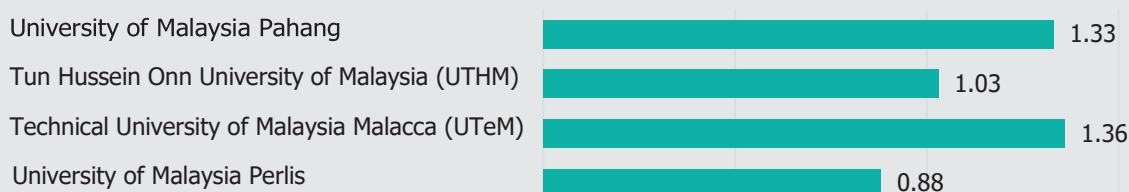


Table 9.7: Program Aimed at Increasing UMP Publications and Citations in 2021

NO.	PROGRAM	DATE	PLACE
1.	Webinar Series on Research and Publication: Strategizing Research Direction During COVID-19 Pandemic	September 27, 2021	Online
2.	Webinar Series on Research and Publication: Writing and Publishing Review Manuscript in High Impact Journals	September 28, 2021	

Publication and Citation Achievements 2021

Diagram 9.4: Details of Publication and Citation Achievements in 2021

1.65 (1,177)	0.718 (513)	0.679 (485)	0.039 (28)	0.625 (446)	64 (45,727)
Amount Publication of Indexed Journals and Proceedings (Per Academic Staff)	Indexed Joint Publications Per Staff (National)	Publishing Co-Indexed Per Staff (International)	Indexed Joint Publications Per Staff (Industry)	Publishing Per Staff From Unindexed Conferences and Other Publications Per Staff	Total Cumulative Citations Per Academic Staff

Research Grant Principal Investigator

Diagram 9.5: Details of Principal Investigators of Research Grants

- 76%** UMP Main Researcher 2021
- 57%** UMP External Grant Lead Researcher
- 19%** 2021 UMP Internal Grant Lead



2021 Active Research Grant

Table 9.8: Breakdown of Active Research Grant Categories in 2021

NO.	RESEARCH GRANTS	NUMBER OF PROJECTS	AMOUNT OF FUNDS	FUND PERCENTAGE
1.	University Grants	1,139	RM20,130,586.00	24%
2.	National Grant	440	RM34,155,558.00	76%
3.	Industry Grants	63	RM24,508,053.00	
4.	International Grants	43	RM4,472,690.00	

University Research Grants 2021

Diagram 9.6: Details of University Research Grants in 2021

	TRL 1-3		TRL 4	TRL 5	TRL 6	TRL 7-9		
PRE R&D	R&D				PRE-COM	COMMERCIALIZATION		
Pre R&D Process	Value Analysis Concept/Idea	Basic	Applied	Prototype Development	Pilot Plant/Comm Ready Prototype	Incubation/ Early Growth	Mature Stage	Value Realisation
	Geran Penyelidikan Fundamental UMP		Geran Made in UMP		Geran Lab2 Market UMP	<div>1. Syarikat Spin-Off melalui Produk</div> <div>2. Syarikat Spin-off Melalui Kepakaran</div> <div>3. Penjualan/Pelesenan Harta Intelek</div> <div>4. Perundingan dan Khidmat Teknikal</div>		
	Geran Penyelidikan Unggul UMP							
	Geran Penerbitan Antarabangsa UMP		Geran Pembangunan Produk UMP					
	Geran Padanan Agensi							
	Geran Padanan Antarabangsa							
	Geran Pananan Industri							
	Geran First In The World UMP							
	UMP					UMPT		

Table 9.9: Details of Research Grants Fundamental UMP and UMP Postgraduate Grant in 2021

NO.	RESEARCH GRANTS	NUMBER OF PROJECTS	AMOUNT OF FUNDS
1.	UMP Fundamental Research Grant	70	RM1,985,580.00
2.	UMP Postgraduate Grant	83	RM299,985.00

National Research Grant 2021

Table 9.10: Details of National Research Grants 2021

NO.	RESEARCH GRANTS	NUMBER OF PROJECTS	AMOUNT OF FUNDS
1.	KPT DP Grant (FRGS)	57	RM5,669,681.00
2.	Agency Grants	5	RM356,200.00
3.	Public University Matching Grants	8	RM266,070.00

Table 9.11: 2021 Research Initiatives and Programs Online

NO.	PROGRAM	LECTURER	DATE
1.	MoHE Research Fund Grant Application Guidelines: Research Grant Scheme Prototype Development (PRGS) Phase 1	<ul style="list-style-type: none"> Professor Ts. Dr. Md. Mustafizur Rahman, UMP 	February 1, 2021
2.	MoHE Research Fund Grant Application Guidelines: Research Grant Scheme Fundamental (FRGS) Phase 1		February 4, 2021
3.	Quality Proposal Preparation Workshop for Ministry of Higher Education Research Fund Grant Application Phase 01/2021	<ul style="list-style-type: none"> Professor Ir. Dr. Abdul Latif Ahmad, University of Science Malaysia (USM) 	February 15, 2021
4.	Patent Search Workshop for Ministry of Higher Education Research Fund Grant Application Phase 01/2021	<ul style="list-style-type: none"> Professor Dr. Shahir Shamsir Omar, Universiti Tun Hussein Onn Malaysia (UTHM) 	February 16, 2021
5.	IPT Internal Panel Workshop for Ministry of Higher Education Research Fund Grant Evaluation	<ul style="list-style-type: none"> Professor Ts. Dr. Md. Mustafizur Rahman, UMP Professor Dr. Che Hussain Che Haron, National University Malaysia (SME) 	17 to 18 February 2021
6.	UMP Research Fund Grant Briefing	<ul style="list-style-type: none"> Professor Ts. Dr. Kamal Zuhairi Zamli, UMP Professor ChM Dr. Mohd Hasbi Ab Rahim, UMP Associate Professor Dr. Abdul Adam Abdullah, UMP Associate Professor Dr. Ahmed Tarmizi Haron, UMP 	October 20, 2021

Research Book *Exploration@UMP*



In 2021, the Research Office published the Research Book, *Exploration@UMP* in two editions for the period from January to June 2021.

Publishing

Diagram 6.7: Publication by Category

2	Original Works/Creative	16	Research Book
2	Works General Works	7	Modules/Manuals
1	Chapters in Books	1	Comics
1	General Lecture		



Table 9.12: 2021 Production List According to Faculty and Center of Responsibility (PTJ)

NO.	FACULTY	BOOK TITLE	CATEGORY
1.	Modern Language Center (PBM)	<i>Iszuanihongo - Second Edition</i>	Module
2.	Center for Mathematical Sciences (PSM)	<i>Basic Mathematics</i>	
3.	Humanities Center (PSK)	<i>Panduan Memahami Maqasid Syariah</i>	Research Book
4.		<i>Che Wong: Khazanah yang Menghilang</i>	
5.		<i>Manual Penggunaan Alat emWavePro Biofeedback</i>	
6.		<i>Pembangunan Insan Konsep dan Proses - Teknik Biofeedback</i>	
7.		<i>Pengurusan Diri Pelajar Luar Kampus</i>	
8.		<i>Aditif Makanan</i>	
9.		<i>Psikofisiologi Untuk Pembangunan Insan</i>	
10.		<i>COVID-19 Dari Perspektif Sains Sosial - Implikasi dan Solusi</i>	Chapters in Books
11.	Center for Entrepreneurship	<i>Usahawan Era Pandemik COVID-19: Antara Kabus dengan Sinar</i>	Creative Works
12.	Faculty of Industrial Science and Technology (FSTI)	<i>Job Hunting & Get Hired</i>	General Works
13.		<i>Tinospora Crispa Patawali Root - Health Benefits of Bitter Tasted</i>	Research Book
14.		<i>Graphene Based Coating - Effective Ways of Preventing Corrosion</i>	
15.	College of Engineering (KKEJ)	<i>Meningkat Produktiviti Melalui Pelaksanaan Sistem Pembuatan Lean</i>	Research Book
16.		<i>Raspberry Pi IoT</i>	Module
17.		<i>First Guide to Python Programming</i>	
18.		<i>Microwave Assisted - Extraction for Bioactive Compounds and Separation of Crude Oil Emulsions</i>	General Lecture

NO.	FACULTY	BOOK TITLE	CATEGORY
19.	College of Engineering (KKEJ)	<i>Diesel-Biodiesel Blends with Alcohol Additive Performance and Emissions</i>	Research Book
20.	Faculty of Industrial Management (FPI)	<i>Construction Inventory and Working Capital Empirical Analysis</i>	Research Book
21.		<i>PHD: The Amazing Journey</i>	Creative Works
22.		<i>Management of Technology 2</i>	Module
23.		<i>Demand for Environmental Technology Innovation in the Manufacturing Industry</i>	Research Book
24.		<i>Memimpin yang Terpimpin – Himpunan Artikel Terpilih Strategik Kepimpinan Kompetensi</i>	
25.		<i>Memimpin yang Terpimpin – Model Kompetensi Bakat dan Kepimpinan Universiti Awam Siri 2</i>	
26.		<i>Kamus Kompetensi</i>	
27.		<i>Industry Cases in Technology Management</i>	Module
28.	Faculty of Mechanical and Automotive Engineering Technology (FTKMA)	<i>Nano Coolant</i>	Research Book
29.		<i>Prosedur Operasi Standard Semasa dan Pasca Perintah Kawalan Pergerakan Wabak COVID-19 untuk Pelaksanaan Kursus Kokurikulum Berkredit</i>	General Works
30.		<i>Survival Statics Part 1</i>	Comics
31.	Faculty of Electrical Engineering Technology and Electronics (FTKEE)	<i>Embedded System with STM32F103 Arm Cortex M-3 Microcontroller in Bare Metal-C</i>	Module

Table 9.13: Details of Journal Publications in 2021

NO.	JOURNAL	FREQUENCY	CURRENT PUBLICATIONS
1.	IJAME International Journal of Automotive and Mechanical Engineering	March, June, September and December	<ul style="list-style-type: none"> Volume 18 Issue 1, March 2021 Volume 18 Issue 2, June 2021 Volume 18 Issue 3, September 2021 Volume 18 Issue 4, December 2021
2.	JMES Journal of Mechanical Engineering and Sciences	March, June, September and December	<ul style="list-style-type: none"> Volume 15 Issue 1, March 2021 Volume 15 Issue 2, June 2021 Volume 15 Issue 3, September 2021 Volume 15 Issue 4, December 2021
3.	IJETS International Journal of Engineering Technology and Sciences	January and July	<ul style="list-style-type: none"> Volume 8 Issue 1, Jan 2021 Volume 8 Issue 2, July 2021
4.	IJLEAL International Journal of Language Education and Applied Linguistics	June and December	<ul style="list-style-type: none"> Volume 11 Issue 1, June 2021 Volume 11 Issue 2, December 2021
5.	IJSECS International Journal of Software Engineering and Computer Systems	February and August	<ul style="list-style-type: none"> Volume 7 Issue 1, February 2021 Volume 7 Issue 2, August 2021
6.	IJIM International Journal of Industrial Management	March, June, September and December	<ul style="list-style-type: none"> Volume 9, March 2021 Volume 10, June 2021 Volume 11 September 2021 Volume 12, December 2021
7.	IJHTC International Journal of Humanities Technology and Civilization	July and December	<ul style="list-style-type: none"> Volume 1 Issue 11, July 2021 Volume 1 Issue 12, December 2021

NO.	JOURNAL	FREQUENCY	CURRENT PUBLICATIONS
8.	JCEIB Journal of Chemical Engineering and Industrial Biotechnology	March and September	<ul style="list-style-type: none"> • Volume 7 Issue 1, March 2021 • Volume 7 Issue 2, September 2021
9.	JGI Journal of Governance and Integrity	July and December	<ul style="list-style-type: none"> • Volume 4 Issue 2, July 2021 • Volume 5 Issue 1, December 2021
10.	JMMST Journal of Modern Manufacturing Systems and Technology	March and September	<ul style="list-style-type: none"> • Volume 5 Issue 1, March 2021 • Volume 5 Issue 2, September 2021
11.	MEKATRONIKA	January and July	<ul style="list-style-type: none"> • Volume 3 Issue 1, Jan 2021 • Volume 3 Issue 2, July 2021
12.	DAAM Data Analytics and Applied Mathematics	June and December	<ul style="list-style-type: none"> • Volume 2 Issue 1, June 2021 • Volume 2 Issue 2, December 2021
13.	CONSTRUCTION		<ul style="list-style-type: none"> • Volume 1 Issue 1, June 2021 • Volume 1 Issue 2, December 2021
14.	CST Current Science and Technology		<ul style="list-style-type: none"> • Volume 1 Issue 1, June 2021 • Volume 1 Issue 2, December 2021

Table 9.14: Details of Sales and Promotion Activities for UMP Publishers in 2021

NO.	DATE	ACTIVITY	PLATFORM
ONLINE SALES			
1.	1 to 28 February 2021	UMP Chinese New Year Sale	Shopee
2.	1 to 18 March 2021	<i>Karnival Buku Ilmiah 3.0</i>	
3.	19 March to 4 April 2021	Kuala Lumpur International Book Fair X Shopee	
4.	17 April to 12 May 2021	<i>Jualan Kombo Ramadan</i>	MOBILE
5.	7 July 2021	Sale 7.7 Shopee	Shopee
6.	8 to 15 August 2021	Sale 8.8 Shopee 8 days	
7.	31 August 31 2021	Independent Sales	
8	9 to 17 September 2021	Sale 9.9 and Malaysia Day	
9	15 October to 15 November 2021	Scientific Book Carnival (KABI 4.0) 2021	Shopee
10.	26 October to 11 November 2021	MAPIM X Shopee	
11.	12 December 2021	Sale 12.12 Shopee	
12.	December 2021	Mega Deals Mega Value (Chocolate and White Box Sale)	
13.	1 to 31 December 2021	<i>Jualan Mutiara Sepanjang Zaman</i> (UMP 20 Years)	
PHYSICAL SALES			
14.	29 April to 10 May 2021	Big Bad Wolf 2021	Tropicana Garden Mall, Kuala Lumpur
15.	2 to 12 December 2021	Selangor Book Festival	SACC Convention Center, Selangor

Generation of New Technologies

Impactful research is also measured by the generation of new technologies. There are two key performance indicators set to measure the success of this new technology generation.

- 1 Commercialized intellectual property; and
- 2 Production of the first discovery or technology in the world (First discovery or technology in the world).

Intellectual Property That Has Been Registered Throughout 2021

Diagram 9.8: Intellectual Property Achievements in

22	Patent filed in Malaysia	1	Industrial Design filed
13	Granted patents	1	Trademark
40	Copyright	5	Utility Innovation

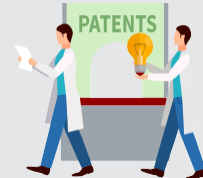


Table 9.15: Initiatives and Programs Related to Intellectual Property in 2021

NO.	PROGRAM	DATE	PLACE
1.	Writing Workshop on Specification and Patent Registration	13 to 15 October, 2021	Online
2.	Knowledge Sharing Session (Research) <i>Transformasi Eksekutif Perdana (STEP): Apa Itu Hak Cipta?</i>	September 20, 2021	

Research Exhibition

Invention, Creativity and Innovation Competition (CITREX) 2021

Diagram 9.9: Overall Achievement of Participants in CITREX 2021



22	109	118	39
Special Award	Gold medal	Silver medal	Bronze medal

Table 9.16: Programs and Competitions Held in conjunction with CITREX 2021 Online

NO.	PROGRAM	DATE
1.	Pitching Competition 2021 'Project Pitch Perfect'	April 2, 2021
2.	<i>Bual Bicara Bersama Dekan-dekan Jabatan Penyelidikan dan Inovasi UMP: Hala Tuju Penyelidikan, Inovasi dan Pengkomersialan UMP</i>	April 6, 2021

International Invention, Innovation and Technology Exhibition (ITEX) 2021



UMP successfully won the ITEX Golden Award for successfully winning the highest gold medal in ITEX which was held on 14 December 2021 at the Kuala Lumpur Convention Centre.

Diagram 9.10: Achievements of UMP Researchers in ITEX 2021

19
Gold
Medal

9
Silver
Medal

2
Bronze
Medal



Table 9.17: Details of UMP Researchers' Achievements in ITEX 2021

NO.	NAME RESEARCHER	PROJECT TITLE
GOLD MEDAL		
1.	Ts. Norhaiza Ghazali	Eco-Coalcrete: Waste-Less Earth, Lively Life
2.	Associate Professor Ts. Dr Devarajan Ramasamy	Bio-Hybrid Engine Coolant
3.	Associate Professor Dr. Hasan Ahmed	G-Gel (Halal Gelatin Alternative from Gallus Gallus Domesticus Produced by Lactic Acid Treatment Method)
4.	Dr. Suriyati Salleh	Go Green with Co-Torrefied Oil Palm (Co-Top) Pellet
5.	Associate Professor Dr. Ramadan Putrajaya	Seashell Porous Asphalt: Sustainable Road Construction
6.		High Early Strength Previous Concrete (Hes-Pc)
7.	Dr. Syifak Izhar Hisham	OBEM 2.0: Obesity Monitoring System and Application 2.0
8.	Dr. Rajaletchumy Veloo Kutty	Antimicrobial Herbal Hand Wash
9.	Ts. Dr. Mohd Azrul Hisham Mohd Adib	Physio-Walker (Phywalk) for Cerebral Palsy Kids
10.	Dr. Diyana Kamarudin	Hear Me: Assistive Technology for the Deaf and Hearing Impaired
11.	Dr. Ahmad Irfan Akmal Hisham	I-Mawaqit: Comparative Prayer Time Zone Calculator
12.	Dr. Mohd. Suhardi Mat Jusoh	<i>E-Modul Latihan Tazkiyah Al-Nafs (E-Mltn)</i>
13.	Associate Professor Ts. Dr. Aishah Abu Bake	The Two-Step Online Examination Integrity Approach
14.	Dr. Noor Suraya Romali	ENVIROOF: For Sustainable Stormwater Management
15.	Associate Professor Ir. Ts. Dr. Kumaran Kadirgama	Superpower Coolant for Energy Storage System
16.	Professor Dr. Dr. I mean Rahman Khan	Green Hydrogen Production from Petrochemical Wastewater
17.	Associate Professor Ir. Dr. Mohd Hafizi Zohari	Fiber Bragg Grating Gap Sensor for Critical Flange Monitoring
18.	Associate Professor Ts. Dr. Abdulrahman Ahmed Alsewari	HKAS: A Novel Combinatorial Test List Generator
19.	Ts. Dr. Norida Ridzuan	Saba Copolymer Wax Inhibitor (Stearyl Acrylate-Co-Behenyl Acrylates)
SILVER MEDAL		
20.	Associate Professor Ts. Dr. Khairunisa Muthusamy	Eco-Cement: Save The Mother Nature
21.	Chm. Dr. Wan Norfazilah Wan Ismail	Getdry!: Get Dry With Nano Waterproof Spray
22.	Dr. Senthil Kumar	Predicting Microfinance Loan Default
23.	Associate Professor Dr. Agus Geter Edy Sutjipto	High Strength Inert Ceramic Balls for Catalyst Support Media
24.	Chm. Dr. Nurlin Abu Samah	Soras: Arsenic Removal Additive
25.	Dr. Siti Zanariah Satari	Predictive Calculator for Early Detection of Syndromic Craniosynostosis
SILVER MEDAL		
26.	Associate Professor Dr. Nor Hayati Rosli	Pandemic Preparedness Simulation Tool

NO.	NAME RESEARCHER	PROJECT TITLE
27.	Ts. Dr. Waheb Jabar	Digital Verification System for COVID-19 Test Certificates (DVASTC-COVID-19)
28.	Associate Professor Dr. Hazrulrizawati Abdul Hamid	DEERA-OS
BRONZE MEDAL		
29.	Ts. Dr. Mohd Izham Mohd Jaya	Track Me: A Geofence Alerts Application with GPS Tracking for Children Monitoring
30.	Dr. Noorazliza Sulaiman	Development of Robust Breast Cancer Diagnosis Technique Based on Bio-Inspired Algorithm

Malaysia Technology Expo(MTE) 2021

A total of 14 UMP researchers have participated in MTE 2021 which was held from 22 to 26 March 2021 virtually to support the government's call for new norms in practice due to the COVID-19 pandemic that has hit the world.

Diagram 9.11: Achievements of UMP Researchers in MTE 2021

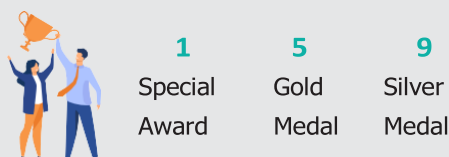


Table 9.18: Details of UMP Researchers' Achievements in ITEX 2021

NO.	NAME RESEARCHER	PROJECT TITLE
CHINESE INNOVATION AND INVENTION SOCIETY TAIWAN SPECIAL AWARD AND GOLD MEDAL		
1.	Associate Professor Ir. Dr. Mohd Hafizi Zohari	Fiber Bragg Grating System for Engineering Structures Health Monitoring
GOLD MEDAL		
2.	Professor Dr. Muhammad Nubli Abdul Wahhab	Biodyslexia
3.	Associate Professor Dr. Khairunisa Muthusamy	Clin-Litecrete
4.	Associate Professor Dr. Muhammad Sharfi Najib	E-Anfun for Environmental Safety and Monitoring
5.	Ts. Dr. Mohd Azrul Hisham Mohd Adib	Infawrap Device
SILVER MEDAL		
6.	Professor Dr. Hayder A. Abdul Bari	Microfluidics Seawater Desalination Chip (A Disaster and Emergency Kit)
7.	Associate Professor Ir. Dr. Mohd Fairusham Ghazali	Intelligent Leak Finder
NO.	NAME OF RESEARCHER	PROJECT TITLE
8.	Associate Professor Ir. Ts. Dr. Kumaran Kadirgama	Cellulose Enrich Radiator Coolant
SILVER MEDAL		
9.	Associate Professor Dr. Dr. Arafatur Rahman	Tracts-Net: An Intelligent Road Damage Detection System
10.	Associate Professor Dr. Saiful Nizam Tajuddin	Nano-Inoculants; High Quality Agarwood Inducer
11.	Dr. Lee Chia Kuang	DEMAEX-SIM
12.	Ts. Dr. Norazlian Sazali	Modified Polyimide Enrich Carbon Membrane
13.	Dr. Mohammed Nazmus Shakib	Bio-Telemetry Implant Antenna
14.	Dr. Rajaletchumy Veloo Kutty	Hydrogel Beads for Nutraceuticals

MTE Sustainable Development Goals 2021

The MTE Sustainable Development Goals 2021 innovation exhibition which was held on 25 to 29 October 2021 online and was attended by a total of five UMP researchers from various specialist fields has shown outstanding achievements.

Diagram 9.12: Details of the Achievements of UMP Researchers in MTE Sustainable Development Goals 2021

2 Special Award 2 Gold Medal 2 Silver Medal 1 Bronze Medal



Table 9.19: Details of Achievements of UMP Researchers in MTE Sustainable Development Goals 2021

NO.	NAME RESEARCHER	PROJECT TITLE
OUTSTANDING INNOVATION AWARD AND GOLD MEDAL		
1.	Ts. Dr. Mohd Azrul Hisham Mohd Adib	Physio-Treadmill (Phymill) for Cerebral Palsy Kids
2.	Dr. Lee Chia Kuang	Accelerates Human Capital Development with E-GCPM Modular: Quality Project Management Education for All
SILVER MEDAL		
3.	Dr. Nazikussabah Zaharudin	GLUCOFIX: Brown Seaweed Effects on Glucose Liberation
4.	Associate Professor Dr. Agus Geter Edy Sutjipto	Competitive Advantage of Inert Ceramic Balls Manufactured from Malaysian Resources
BRONZE MEDAL		
5.	Associate Professor Ir. Ts. Dr. Faiz Mohd Turan	Humanistic Performance Design Assessment (HUPDA)

MTE 2021: The 2nd Covid-19 International Innovation Awards

A total of four UMP lecturers have participated in the MTE 2021: The 2nd COVID-19 International Innovation Awards competition which took place online from 14 to 18 June 2021.

Diagram 9.13: Achievements of UMP Researchers in MTE 2021: The 2nd COVID-19 International Innovation Awards



4 Special Award 3 Gold Medal 1 Bronze Medal

Table 9.20: Achievements of UMP Researchers in MTE 2021: The 2nd COVID-19 International Innovation Awards

NO.	NAME RESEARCHER	PROJECT TITLE
TURKISH INVENTORS AND INNOVATORS NETWORK AWARD AND GOLD MEDAL		
1.	Associate Professor Ts. Dr. Mazlina Abdul Majid	PISAH COVID Patient Tracking System at Home
NATIONAL STEM ASSOCIATION AWARD, EURO BUSINESS-HALLER AWARD AND GOLD MEDAL		
2.	Dr. Diyana Kamarudin	Hear Me Assistive Technology for the Deaf and Hearing Impaired During Pandemic
MALAYSIAN ASSOCIATION OF CREATIVITY AND INNOVATION AWARD AND GOLD MEDAL		
3.	Ts. Dr. Norazaliza Mohd Jamil	A GUI Simulation Tool for Pandemic Outbreaks
BRONZE MEDAL		
4.	Ts. Dr. Rosahliza M Ramli	SMART Unmanned Ground Vehicle (UGV) for COVID-19 Waste Management

Bitara Scholar Award 2021

Diagram 9.4: Achievements of UMP Researchers in the Bitara Scholar Award 2019

7	Publication of the	1	Article Publication/Journal Special Award
1	International Grants	1	Commercial Special Award
6	Journal of Industry	2	Special Innovation Award
1	Grants		



Table 9.21: Details of the Achievements of UMP Researchers in the Cendekia Bitara Award 2019

NO.	CATEGORY	THE NAME OF THE RECIPIENT
1.	Journal Publications	Associate Professor Dr. Mohd Fadzil Faisae Mr. Rashid
2.		Dr. Nur Zalikha Khalil
3.		Ts. Dr. Liang Yong Yeow
4.		Professor Ts. Dr. Jolius Gimbut
5.		Professor Ts. Dr. Gaanty Pragas A/L Maniam
6.		Associate Professor Ts. Dr. Mazlina Abdul Majid
7.		Professor Dr. Chong Kwok Feng
8.	International Grants	Associate Professor Ir. Dr. Nurul Hazlina Noordin
9.	Industry Grants	Professor Dr. Abdurahman Hamid Nour
10.		Dr. Ismayuzri Ishak
11.		Associate Professor Ir. Dr. Akhtar Razul Razali
12.		Ts. Mohd Najib Razali
13.	Industry Grants	Associate Professor Ir. Dr. Fadhlur Rahman Mohd Romlay
14.		Associate Professor Ir. Ts. Dr. Wan Sharuzi Wan Harun
15.	Commercialized Intellectual Property	Associate Professor Ts. Dr. Norashikin Mat Zain
16.	Article/Journal Publication Special Award	Associate Professor Dr. Wan Azmi Wan Hamzah
17.	Commercial Special Award	Ts. Mohd Najib Razali
18.	Special Innovation Award	Associate Professor Dr. Saiful Nizam Tajuddin
		Associate Professor Dr. Sharfi Najib

Diagram 9.5: Achievements of UMP Researchers in the Bitara Scholar Award 2020



9	International Grants	1	Commercial Special Award
5	Journal Publications	1	
1	Industry Grants		

Table 9.22: Details of the Achievements of UMP Researchers in the Cendekia Bitara Award 2020

NO.	CATEGORY	THE NAME OF THE RECIPIENT
1.	Journal Publications	Associate Professor Ir Ts. Dr. Mahendran Samykano
2.		Associate Professor Dr. Mohamad Firdaus Basrawi
3.		Associate Professor Dr. Chin Sim Yee
4.		Associate Professor Ts. Dr. Mohd Yusri Mohd Yunus
5.		Mrs. Sharifah Fathiyah Sy Mohamad
6.	Journal Publications	Dr. Nurlin Abu Samah
7.		Associate Professor Dr. Hazrulrizawati Abd Hamid
8.		Professor Dr. Jose Rajan
9.		Associate Professor Dr. Irene Ting Wei Kiong
10.	International Grants	Associate Professor Ir. Dr. Nurul Hazlina Noordin
11.		Associate Professor Ts. Dr. Mohd Ruslim Mohamed
12.		Dr. Nor Atiqah Zolpakar
13.		Professor Ir. Ts. Dr. Kamarul Hawari Ghazali
14.		Associate Professor Ts. Dr. Muzamir Hassan
15.	Industry Grants	Dr. Izan Izwan Misnon
16.	Commercial Special Award	Associate Professor Dr. Mohamad Firdaus Basrawi
17.	Special Innovation Award	Ir. Ts. Dr. Mohd Zamri Ibrahim

Graduate Entrepreneurship

The third thrust under this strategic objective focuses on producing entrepreneurs among UMP graduates. For that purpose, a key performance indicator is set for this core.

- 1 A student company that has an impactful business.



The Jauhar Straw Group achieved success when it was selected among the ten best Business Plans and Business Model Canvas (BMC) in the Idea, Product & Commercial (i-ProCom) program by the Ministry of Higher Education (KPT) in collaboration with the Ministry of Entrepreneur Development and Cooperatives (MEDAC), University Terengganu Malaysia (UMT), the National Institute of Entrepreneurship (INSKEN) and the Center for Entrepreneur Development and Research (CEDAR) through the innovation of environmentally friendly drinking straws that replace plastic straws (Jauhar Straw) on 23 September 2021.

Creative Entrepreneur Development Center (PUPUK)

Officially established in 2010, it is instrumental in empowering the university's entrepreneurship agenda with three main scopes.

- 1 Entrepreneurship Course
- 2 (Academic) Student
- 3 Entrepreneurship Program



Entrepreneurial Transformation Plan

An entrepreneurial ecosystem that contains a comprehensive and structured entrepreneurial education system. This ecosystem becomes a platform for entrepreneurs to exchange ideas and views and help each other to solve their problems under the guidance of mentors who are experienced in the field of entrepreneurship. The purpose of implementing this transformation is:

- Provide comprehensive entrepreneurship education to students and entrepreneurs;
- Creating entrepreneurs among students and graduates (Freelance, Enterprise, Sdn. Bhd.);
- Create job opportunities for UMP graduates;
- Giving birth to the company Made in UMP (UMP Brand); and
- Giving birth to companies that have a high impact on local and global events.

Diagram 9.6: Comprehensive Ecosystem for UMP Entrepreneurs

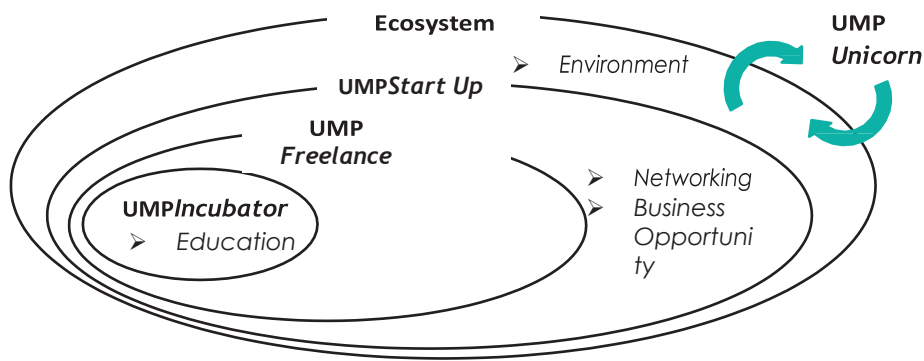


Table 9.23: List of PUPUK Programs Year 2021

NO.	PROGRAM	DATE
1.	TOT Pengajar Keusahawanan UMP bersama Pusat Pembangunan Keusahawanan dan EKS, Universiti Kebangsaan Malaysia (UKM-CESMED)	6, 8 and 11 January 2021
2.	Booth Camp Pilot Teknousahawan Berstruktur	26, 28, 29 May 2021
3.	Bengkel Penambahbaikan Kursus Keusahawanan Berkredit UGE1002 dan UGE 2002	30 June, 15 July, 31 October 2021
4.	Program Mobiliti Serumpun Next Top Futurepreneur UMP dan Muhammadiyah University of Magelang (UNIMMA), Indonesia	15, 16, 20 August 2021
5.	National Micro Enterprise Pitching Competition	29 May and 13 June 2021
6.	MEDAC-KPT Program: Siswa@Mall (Idea, Product, Commercial and i-Procom)	29 September and 31 December 2021
7.	Celcom Siswapreneur Booth Camp	27 October 2021
8.	Talk about Entrepreneurship with Dato' Alha Alfa	7 November 2021
9.	MOHE x Shopee: Siswamall	25 November 2021
10.	Siswapreneur Business Ethics and Compliance (SBEC) 2021	5 to 7 November 2021
11.	Webinar Keusahawanan MAKMUM Siri 3: Membina Empayar Perniagaan di Era Digital dan Covid-19 bersama Presiden dan Ketua Pegawai Eksekutif, Kumpulan Syarikat KRU, Dato' Norman Abdul Halim	9 November 2021
12.	Tunas Usahawan Belia Bumiputera (Tube)@IPT	13 to 22 November 2021

Table 9.24: List of Book Publications under PUPUK Year 2021

NO.	PROGRAM	DATE
1.	Penerbitan Buku Usahawan Siswa: Memeta Haluan Melakar Jaya bersama Kementerian Pengajian Tinggi (KPT) dan Universiti Malaysia Kelantan (UMK)	December 2021

10 REDUCED
INEQUALITIES



Menyantuni Warga
OKU: Dari Perspektif
Polisi dan Realiti

Prof Dr Ruzita Mohd Amin
Head
Disability Services Unit
International Islamic University Malaysia
24 March 2021



Disabled Service Unit (OkUMP)

Established to provide services to disabled staff and students at UMP by creating an inclusive and conducive campus. The three sources of power that approved the establishment of OkUMP are The 124th JKPU Meeting Bill.9/2019 dated 15 December 2019, Implementation of the KPT MyU-OKU System Audit effective December 30, 2019 and the 139th JKPU Meeting Bill. 15/2020 dated 8 October 2020.

Objective

- Creating an inclusive and conducive environment for disabled people of UMP.
- Optimizing the potential and talent of people with disabilities through a systematic rehabilitation and empowerment program integration package.
- Generate a superior, sustainable and professional brand of UMP disabled people through technology synergy for the community.

Main service

- 1 Governance
- 2 Teaching and Learning (PdP)
- 3 Accessibility and Connectivity of the Campus Environment
- 4 Support Services

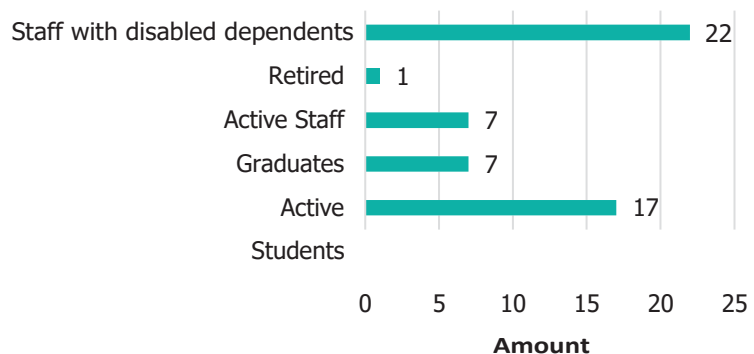


Return to Work (RTW) Goodwill Visit to Muhammad Kamarulzaman Safiee's House

Diagram 10.1: Statistics of OkUMP Citizens in 2021

Definition of disabled

According to the Persons with Disabilities Act 2008, "Disabled persons include those who have long-term physical, mental, intellectual or sensory impairments which, when interacting with various barriers, may restrict their full and effective participation in society."



System *MyU-OKU*

Diagram 10.2: UMP's Disabled Friendly Ecosystem Policy (DAMAI)

UMP SERVICE AND AUDIT COMMITTEE	
The highest committee chaired by the UMP Vice-Chancellor formulates policy, development planning and operational determination as well as audit compliance involving OkUMP citizens.	
UMP DISABLED SERVICE UNIT (OkUMP)	KARIB OKU UMP
<p>Responsibility Center (PTJ) which functions to manage four service clusters for people with disabilities.</p> <ul style="list-style-type: none"> • Governance • Teaching and Learning (PdP) • Accessibility and Connectivity of the Campus Environment • Support Services 	<p>Disabled community volunteer membership (open to the public).</p> <ul style="list-style-type: none"> • Family members and friends of OkUMP citizens • UMP alumni (not disabled) • Individuals or organizations that want to contribute to the development of the disabled community • Open to UMP citizens and non-UMP communities at various community levels (campus, district, state, national or
FELLOW OKU	UMP DISABLED CLUB
<p>Fellows (staff representatives) appointed by the Padu Committee to help carry out the four functions of the OKU service cluster at each PTJ.</p>	<p>A club that looks after the welfare of OkUMP staff and students. Exclusive (closed) membership to:</p> <ul style="list-style-type: none"> • OKU UMP staff • UMP disabled students • UMP residents with disabled relatives • UMP alumni (disabled)

Table 10.1: System Details *MyU-OKU*

GOVERNANCE	TEACHING AND LEARNING (PDP) AND CAREER	SUPPORT SERVICES	ENVIRONMENTAL ACCESSIBILITY AND CONNECTIVITY CAMPUS
<ul style="list-style-type: none"> • Administration • Execution • Internal monitoring and control <p>Establishment of two entities:</p> <ul style="list-style-type: none"> • UnitsOKU UMP Service (OkUMP) • JK Service and Audit of the Disabled (PADU) 	<ul style="list-style-type: none"> • Planning • Execution • Assessment • Graduate employability • Career development 	<ul style="list-style-type: none"> • Academic Support Services • Non-Academic Support Services <p>Establishment of three pulses:</p> <ol style="list-style-type: none"> 1. Club 2. Carib 3. Fellow <p>With cooperation:</p> <ol style="list-style-type: none"> 1. UMP Academic Staff Association (PAKAD) 2. Association of Administrative and Professional Officers (PPTI) 3. UMP Support Staff Association (KESUMP) 4. UMP Staff Welfare and Sports Agency (BKSU) 5. Staff Welfare and Welfare Association (Prosperity) 	<ul style="list-style-type: none"> • Access to information, information and buildings. • Movement and connectivity of academic and non-academic facilities <p>Ten important locations for the survival of OkUMP citizens on the Faculty campus:</p> <ol style="list-style-type: none"> 1. Residential college 2. Disabled community center 3. Cafeteria 4. Library 5. Mosque 6. University Health centre 7. ATM 8. Cooperative 9. recreation centre

Table 10.2: System MyU-OKU

NO.	DOMAIN	CRITERIA	SUB-CRITERIA	INDICATOR
1.	Governance	3	8	43
2.	Teaching and Learning (PdP)	3	11	38
3.	Support Services	2	12	73
4.	Accessibility and Connectivity of the Campus Environment	3	17	225
OVERALL TOTAL		11	48	379

Table 10.3: List of Internal Programs and Activities in 2021

NO.	PROGRAM/ACTIVITY	DATE
1.	<i>Forum Menyantuni Golongan Berkeperluan Khas: Ke Arah Resolusi Kaedah Pembelajaran Digital Berkesan Pada Era Pandemik COVID-19 anjuran Fakulti Pendidikan, Universiti Kebangsaan Malaysia (UKM)</i>	9 January 2021
2.	<i>Wawancara Bersama Dalam Segmen Road to Success di DidikTV KPM</i>	25 February 2021
3.	<i>Slot Ramah Mesra bersama Panel Pakar OkUMP dan Bicara Cendekiawan Mulia (BCM) UMP dengan Tema Celik OKU [Menyantuni Warga OKU: Dari Perspektif Polisi dan Realiti]</i>	24 March 2021
4.	Joining and Completing the Disability and Citizen Care Course Emas organized by the National Welfare and Community Development Council	29 to 31 March 2021
5.	Skills course in Digital Accessibility Organized by National Council Blind Malaysia (NCBM) under the auspices of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)	4 March 2021 to 24 January 2022
6.	Foundation Course Program for Digital Accessibility Training 2021	12 to 16 April 2021
7.	Digital Accessibility Training Program	2 June to 22 December 2021
8.	Gender-Disability Intersectionalities (GDI) Program	14 June to 30 August 2021
9.	Strategic Advocacy Training	13 September 2021 to 24 January 2022
10.	Representing UMP attending the Let's Get to Know Return-to-Work Program Webinar (RTW) SOCSO titled 'Job Coach: Supporting Employee with Disability to Return to Work'	27 April 2021
11.	OkUMP Program Discussion Series: <i>Webinar Talian Hayat OKU Semasa Pandemik COVID-19</i>	28 to 29 July 2021
12.	The Malaysian Visually Impaired Organization's collaborative program series: Leisure Youth Development Committee Inspirational Series 8 All Able Succeeded	31 July 2021
13.	Social Welfare Department (JKM) collaboration program - Online Webinar The life of the disabled during the COVID-19 Pandemic	3 August 2021
14.	Malaysian Visually Impaired Organization's collaborative Program Series: Leisure Youth Development Committee Inspiration Series 9 Career Directions	7 August 2021
15.	Malaysian Visually Impaired Organization's collaborative program: Youth Development Committee Casual Inspirational Chat Series 10 Exercises Industry in the Season of the COVID19 Pandemic	14 August 2021
16.	Collaboration program of the Malaysian Visually Impaired Organization: Youth Development Committee Casual Inspirational Chat Series 11 Protect Yourself Shared Responsibility	22 August 2021

NO.	PROGRAM/ACTIVITY	DATE
17.	Collaboration program of the Malaysian Visually Impaired Organization: Youth Development Committee Leisure Connection Inspiration Series 12 New Era Malaysia	28 August 2021
18.	Malaysian Visually Impaired Organization's collaborative program: Youth Development Committee Casual Inspirational Chat 13 Opportunities Entrepreneurship	4 September 2021
19.	Collaboration program of the Malaysian Visually Impaired Organization: Youth Development Committee: Superb Event Protocol Hosting and Management Workshop	10 September 2021
20.	OKUMP Inspirational Talk Series: BiOkUMP Merdeka! Cultivating the Ecosystem Disabled Friendly: Parenting and Career Aspects	16 September 2021
21.	OKUMP Virtual Dating Program	5 October 2021
22.	Online Workshop to Complete OkUMP Documentation	8 to 9 October 2021
23.	OKUMP Casual Talk Series - Survival of the Disabled in IPT	30 October 2021
24.	Collaboration program of the Malaysian Visually Impaired Organization: Youth Development Committee Casual Chat Inspiration 14 Success The Created	11 September 2021
25.	Public Higher Education Agencies and Institutions (IPTA) Engagement Session with Member of Panel of Advisors, YB Senator Datuk Ras Adiba Radzi, Member of The Upper House & Representative of Persons with Disabilities - <i>Parliament of Malaysia</i>	11 November 2021
26.	Anis Got Talent (AGT) program	28 November 28 to 10 December 2021
27.	Inspirational Talk of the National UMP (BIO-N) Title: Accommodating the Disabled in the Diversity of Malaysian Families: Reality and Challenges	15 December 2021
28.	Return to Work (RTW) goodwill visit to Rumah Muhammad Kamarulzaman Safiee	16 December 2021
29.	Equipment Workshop, Initiative Development and 2022 Budget Application UMP Strategic Plan 2021-2025, GEO Resort & Hotel Genting Highland Pahang	17 December 2021
30.	Lensa OkUMP 2.0 – Competition Throughout the 2021 World UMP Disability Month Celebration Festival	18 December 2021 to 15 January 2022
31.	UMP PWD Appreciation Ceremony	23 December 2021
32.	UMP Global PWD Inspiration Talk	23 December 2021
33.	Launch of OKUMP TV YouTube Channel and okump.edu.my portal	23 December 2021
34.	Relaxed UMP PWD Inspiration Talk	23 December 2021

Diagram 10.3: Publication of OkUMP Year 2021

1	Publication of OKU Poems entitled <i>Menyantuni OKU</i>	3	Publication of a chapter in a book entitled 'Disabled Policy in Malaysia' in a book entitled, 'People with Disabilities in Malaysia' published by the Language and
2	Publication with Dr. Mr. Sidek Mr. Muda, an article titled Maqasid Syariah Guide in the Management of PWDs in conjunction with the Celebration of World PWD Month	4	Publication of an article in the Berita Harian newspaper entitled, 'Management of the disabled in the framework of the Sharia Maqasid' with Dr. Tuan Sidek Tuan Muda In conjunction with the 2021

**11 SUSTAINABLE CITIES
AND COMMUNITIES**



Smart and Sustainable Campus

The smart campus is the modernization of UMP's work process to ensure that services and operations can be improved through the provision and use of the latest technology in a smart way. While a sustainable campus refers to a campus that meets social needs, is developed and managed at a reasonable cost and is suitable for the internal and external environment of UMP.

- 1 Infostructure capabilities and ICT infrastructure based on smart technology;
- 2 Planning the development and management of campus facilities that are socially, economically and environmentally friendly.

Information and Communication Technology Center (PTMK)

Digital Based Telecommunication System (*Cloud Communication*)

The wave of telecommunication evolution at UMP started with the use of an analog-based PABX system starting in 2003. In 2009, UMP upgraded the legacy system to an IP-based PBX system. This migration provides cost savings with the unification of voice and data networks and an optimized voice-over IP (VoIP) architecture and centralized management. During the pandemic in 2020, Cloud Communications is proposed.

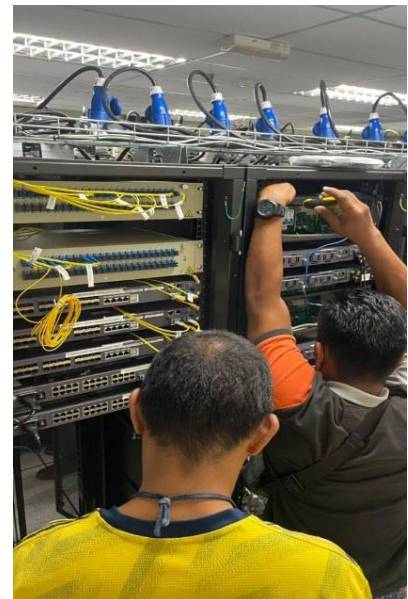


This migration reduces the dependence on conventional communication and prepares UMP for a digital campus environment by the year 2025, as well as optimizing the university's operating expenses.

UMP Pekan Becomes a Hub for MyREN Access for Higher Education Institutions on the East Coast

Malaysian Research and Education Network (MyREN) was launched on March 2005 under the initiative of Malaysia Digital Economy Corporation (MDEC) and managed by the Ministry of Higher Education (KPT). The target of the establishment of MyREN is to provide high-speed broadband to the education sector for the purpose of expanding research capacity in Malaysia. This MyREN community involves almost a million users consisting of lecturers, researchers and students.

Since 2010, UMP has been the main hub that connects the East coast to the outside world involving the states of Pahang, Terengganu and Kelantan. The transfer of MyREN East Coast PoP from UMP Gambang Campus to UMP Pekan is seen to improve the operation of PoP and thus give an advantage to educational institutions on the East Coast to enjoy the best Internet access services from MyREN.



Recertification Audit by SIRIM QAS International Sdn. Bhd. For UMP's Information Security Management System (ISMS).

Recertification Audit Session by SIRIM QAS International Sdn. Bhd. for UMP's Information Security Management System (ISMS) was successfully held on 6 to 7 December 2021 by remote audit. This audit is conducted remotely using the Google Meet platform and ISMS E-Document System (Microsoft Sharepoint). Visits to Pekan UMP Data Center, Disaster Recovery Center, Network Operations Center, Academic Management Center (PPA), Institute of Graduate Studies (IPS) and Marketing and Academic Admission Center were conducted as a virtual tour. UMP has successfully obtained MS ISO/IEC 27001:2013 ISMS recognition in 2013 and has maintained that certification until now. The objective of this audit is to ensure that all activities involved in the ISMS are audited as planned to confirm that the ISMS is working effectively and that continuous detection, prevention, improvement and quality improvement actions can be made.

NO.	PROGRAM	DATELINE
1.	Go Green Tour Program with the Media in conjunction with UMP's 20th Anniversary	December 2021
2.	Papaya Tree Planting Project in Pekan UMP Village	December 2021
LOGISTICS (TRANSPORT AND ASSEMBLY)		
3.	Development of E-Event Online Management System	February 2021
4.	Student Home Delivery in conjunction with Aidilfitri	May 2021
5.	Student Home Delivery in conjunction with Semester Holiday 2021	July 2021
6.	Inviting Students Back to Campus	October 2021
7.	PKOB Logistics Assistance COVID-19	November 2021
8.	Preparation of Vaccination Center (PPV), Pekan UMP	September 2021
9.	Bus Sanitation Process Before and After Movement of Student Delivery	October 2021
10.	2021 Flood Disaster Logistics Assistance	January 2022

University Management System Excellence

The excellence of the university management system refers to a uniform and structured governance mechanism that aims to be a control and administrative monitoring for the entire main function of the university. University management is based on the constitution, statutes and written laws that are in force, circulars and government policies that apply at UMP. In line with the Malaysian Education Development Plan (Higher Education) for Leap 6 which is the strengthening of governance, a dynamic work environment and review and renewal of the management system is required.

- 1 UMP's main work process which is summarized through work process improvement;
- 2 Completion of academic, research, student, administrative, financial, and library management systems; and
- 3 The effectiveness of academic, research, student, administrative, financial, and library management systems.

Library



The UMP library is always committed to improving productivity and quality of service through the latest technology so that it remains relevant in supporting learning, teaching, research and consultation. In an effort to face the challenges of the pandemic era, libraries use various social media platforms. Each service is shared with all users through social media, namely Facebook (<https://www.facebook.com/umplibrary>), Youtube (UMP Library Channel), Twitter (<https://twitter.com/UMPLibrary>), and Instagram (<https://www.instagram.com/umplibrary/>).

Digitization of UMP 25



In 2021, the library has been given responsibility as the secretariat of UMP Digitization. Starting with the establishment of the Digitization Taskforce, a series of related workshops have been conducted. This workshop involves the review and refinement of work processes aimed at increasing the productivity of work production by using smart technology. Two workshops were held with the involvement of 23 Responsibility Centers (PTJ) with a total of 177 participants. As of December 31, 2021, the workshop has successfully collected 201 work processes, 105 work processes that have been digitized (E2E) and 335 work processes that need to be considered for digitization or remain semi-digital (B2E).

UMP Library Collection

Until 2021, the UMP Library recorded a total of 103,809 physical collections and 56,773 digital collections. The database that is still subscribed to is as many as ten databases including two subscriptions from the Ministry of Higher Education (KPT). An allocation of RM1,988,111 was used to subscribe to Science Direct, IEEEExplore, Springerlink, Taylor and Francis, SAE Mobilus, Emerald, SCOPUS and Turnitin databases. A positive development can be seen in the Return of Investment (ROI) in 2021 when the ROI was successfully reduced to 1.12 compared to the ROI of 2020 which was 2.05.

**Diagram 11.1: Overall Details
UMP Library Collection in 2021**

12,571	eCollLI
103,809 copies	Physical
56,773 copies	Digital
26,391	UMP-IR
10 databases	Database Subscriptions





Responsible Waste Management

Reduction On Waste Generation

UMP practices Public Sector Conducive Ecosystem, which is a guideline provided by the Management Modernisation Unit and Malaysia Management Planning. Public Sector Conducive Ecosystem, commonly known as EKSA, focuses on five main objectives:

- Expanding the implementation of the Government agencies to create a conducive environment,
- Enhancing corporate image,
- Strengthening creativity and innovation activities in line with the demands of the stakeholders,
- Encouraging activities towards creating a green environment through the cultivation of Green Practices, and
- Ensuring the auditing elements meet the needs of the various Government agencies.

UMP Holdings manage the recycling program. With the help of other departments, UMP Holdings provides facilities and a system to accommodate the recycling process. Recycle bins are provided in the building and also outside of the building. The collection of recyclable waste is monitored and recorded monthly.

The Compost & Recycle Centre in both campuses manages organic and inorganic wastes and handles the collection of recyclable material & composting in UMP. The centre in UMP Pekan is equipped with a rainwater harvesting system and powered by solar energy.



HAZARDOUS WASTE MANAGEMENT

UMP has proper management for handling the scheduled waste monitored by Occupational Safety and Health Management Office (OSHMO) UMP. An appointed licensed contractor collected and disposed of the scheduled waste from the laboratory's teaching & learning, as well as research & developments activities.



13 CLIMATE ACTION



CO₂ Emissions Reduction Initiatives

Renewable energy program is one of the CO₂ emissions reduction initiatives by reducing the dependency on conventional fossil fuel energy sources. By 2021, there are several initiatives have been conducted.

Type: Solar System, UMP Pekan

Location: Faculty of Mechanical Engineering

Solar power technology has been installed in UMP since 2016. The system consists of 20 kW solar panels on the top of the walkway to supply electricity to the Faculty of Mechanical Engineering's administration blocks. This project is one of the CO₂ emissions reduction initiatives by reducing the dependency on conventional fossil fuel energy sources.



Type: Solar System

Location: Solar KP House, UMP Green Office in Maran, Pahang

KP house is UMP's Community One Stop Centre, where the local community gets training and classes, including religious and academic tuition from UMP staff and students.

The solar system is a connected off-grid system where the energy is generated, produced, delivered, and distributed directly from solar power to electricity.

This solar energy system can generate 5kW of electricity directly and 15kW as a reserve to be used during the night time. The electricity generated at the KP House is able to power all electrical appliances in the house.



Type: Wind Power**Location: Entrance Guard House, UMP Pekan**

In 2012, a project to test sustainable energy was conducted in Malaysia under the purview of MOSTI and SIRIM Berhad. Due to its strategic location, UMP Pekan Campus was selected as one of the test-site for four wind turbines with the power of 2 kW, 4 kW, 5.8 kW and 10 kW. The campus, situated near the coastal area, provides windy conditions that enable the turbine to convert the kinetic energy into electrical power efficiently. Total 22kWh.

**Type: Biodiesel****Location: Faculty of Chemical & Natural Resources Engineering, UMP Gambang**

The Faculty of Chemical & Natural Resources Engineering has been producing biodiesel since 2007, based on years of research. On average, every two days, the faculty collects 50 liters of used cooking oil to produce 30 litres of pure biodiesel. In one month, UMP is therefore capable of producing 450 litres, total of 5,400 litres in a year.



Renewable Energy Sources

Table 13.1: Renewable Energy Sources

NO.	BUILDING/AREA	TYPE OF RENEWABLE ENERGY	YEAR INSTALLED	CAPACITY, KW	KWH PRODUCE YEAR 2021-2022
1	FTKMA & FTKEE	Solar system	2016	21kW	30,248 kWh
2	Solar KP House	Solar system	2018	5kW	5,400 kWh
3	Entrance Guard House	Wind power	2012	22kW	-
4	FKKSA	Biodiesel	2007	30 Litre Biodiesel per 50 Litre cooking oil	-
5	Walkaway (Canseleri to Kafe)	Solar System	2019	2.4kW - off grid	4,380 kWh
6.	Wakf Hut	Solar System	2021	2kW	3,650 kWh
7.	Sea-Lite	Combine heat and power	2022	0.02kW	175.2 kWh
8.	Pico Hydro	Hydro Power	2022	0.015kW	32.85 kWh
9.	FTKMA & FTKEE	Wind Power	2021	250W 250W 800W	9,490 kWh
10.	FTKEE	Solar System	Will be installed in 2022	0.5kW	912.5kWh
TOTAL					54,288 kWh

Program related to Sustainability Energy

Table 17.2: Energy Efficiency Program

	PROGRAM	DATE
1.	Massive Open Online Course (MOOC) on Sustainability Campus. MYSUN: Bringing Future Campus Today	-
2.	Energy Security and Chemical Engineering Congress Theme: Sustainable Technological Solution for Better World	3 November 2021
3.	MUCET2021 - Sustainable Engineering & Technology Towards IR 4.0	16 November 2021
4.	UMP Commitment Towards the Sustainable Development Goals (SDG)	22 November 2021
5.	Roundtable Discussion with stakeholders on Sustainability, Energy Efficiency and Green Campus Topic	28 December 2021

14 LIFE
BELOW WATER



UMP Ecosystems

There are four lakes around UMP, and one of them is in front of the 44.26 -acre library. The lake is also equipped with a 1,614-meter jogging track and a 1,524-meter bike path. Regular monitoring has been implemented to ensure the excellent ecosystem of the lakes.



15 LIFE
ON LAND

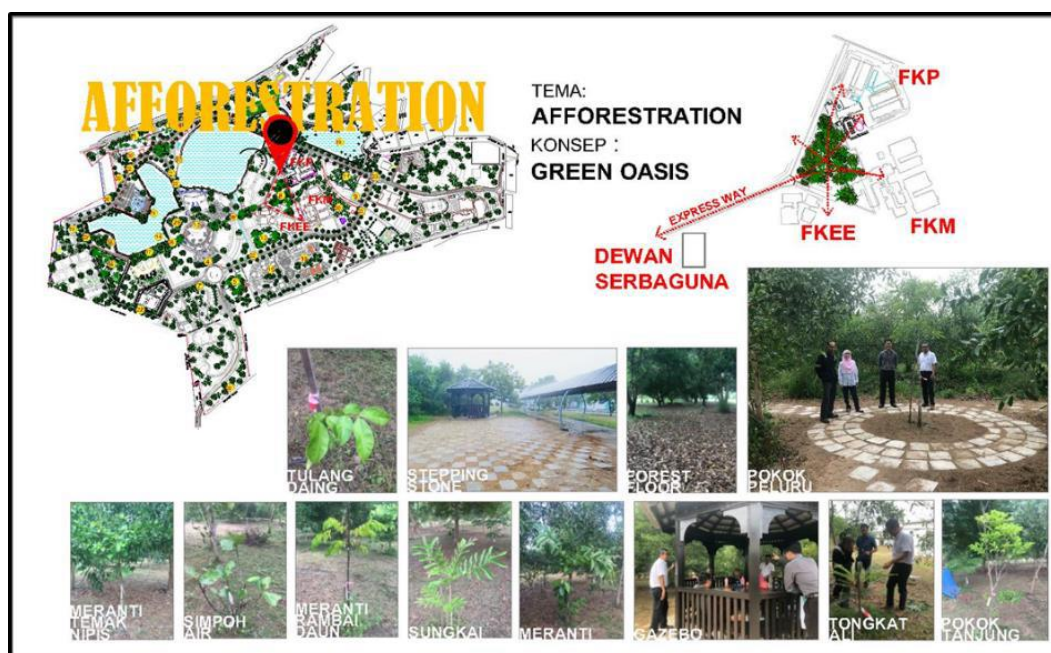


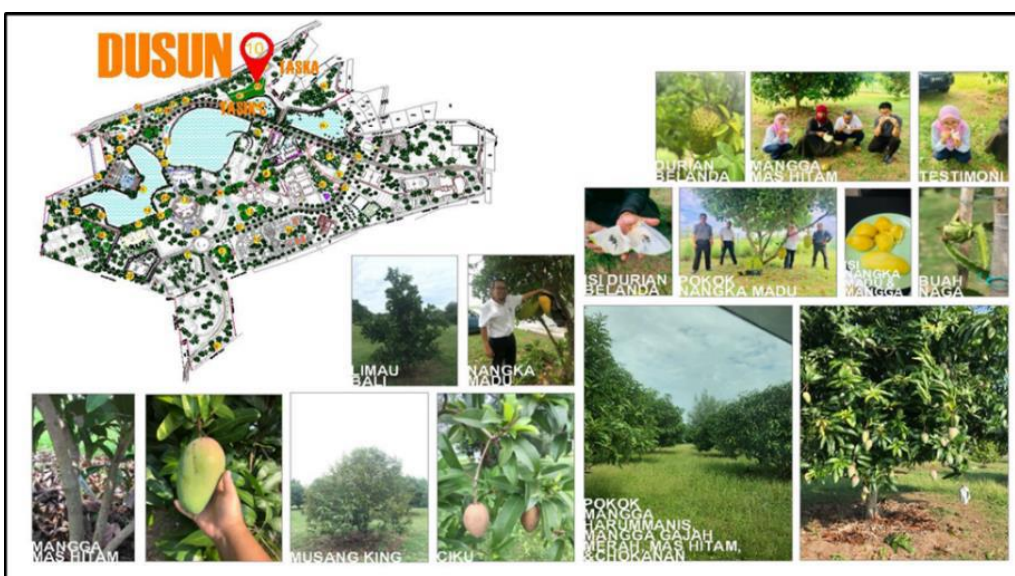
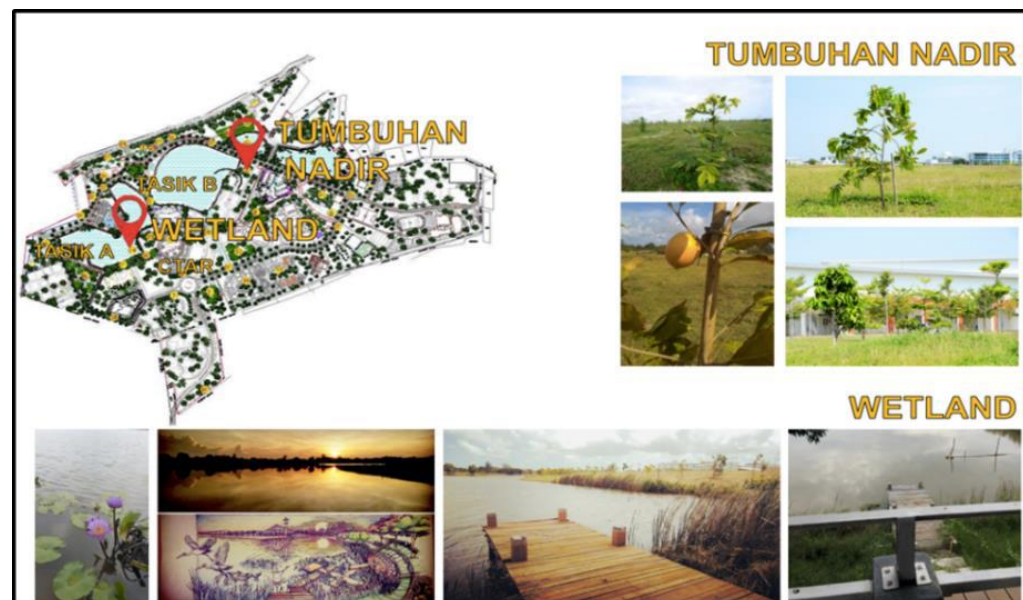
Afforestation Program

UMP has 13 conservation projects, including Rimba Lestari, Kanopi Hutan (will be launching on December 2021), Deer, Goose, Fruit Orchard, Extinct Fruit Arboretum, Bio aromatic Arboretum, Wetland, Tasik B, Laman Cendekia, Kelapa Mataq, Mulching, Napier. Universiti Malaysia Pahang has sought the expertise of Forest Research Institute Malaysia (FRIM) to assist in this project to enhance the landscape of its campus and provide a more conducive environment for students. Almost 1000 forest plants with 24 different species were planted on UMP Pekan Campus.

Table 15.1: Water Conservation Projects

NO.	PROJECT NAME	AREA (ACRES)
1	Rimba Lestari	4.1
2	Canopy Hutan	5.3
3	Ternakan Rusa	205.2
4	Ternakan Angsa	31.2
5	Dusun Buah	2.3
6	Dusun Nadir	6.9
7	Bio aromatic Arboretum	8.1
8	Tasik A (Wetland)	31.9
9	Tasik B	39.2
10	Laman Cendekia	1
11	Pokok Kelapa Mataq	0.5
12	Sungkupan (Mulching)	4.1
13	Napier	0.2





16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS



Legal Department

Diagram 16.1: List of Programs in 2021

UNIVERSITY COLLEGE ACT 1971 AND UMP RULES (DISCIPLINE STUDENTS) 2009	SELECTION OF THE UMP STUDENT REPRESENTATIVE COUNCIL FOR THE 2020/2021 SESSION	MIND TRANSFORMATION PROGRAM (PTM)
<ul style="list-style-type: none"> Briefing in conjunction with the registration of new students for the 2021/2022 session to UMP on 31 July 2021 by Legal Officer, Nurul Ateeqah Othman. Briefing in conjunction with the registration of new students for the 2020/2021 session to UMP on 7 October 2021 by Legal Officer, Nurul Ateeqah Othman. 	<ul style="list-style-type: none"> Briefing in conjunction with the Universiti Malaysia Pahang Student Representative Council Candidate Selection Workshop (UMP) Session 2021/2022 on 16 December 2021 by Legal Officer, Nurul Ateeqah Othman. 	<ul style="list-style-type: none"> Disclosure regarding the responsibilities and roles of public officials (code of conduct & discipline) to Mind Transformation Program (PTM) participants on 24 August 2021 by Legal Officer, Marlina Mamat.

Integrity and Compliance Unit

The Integrity and Compliance Unit was established on 1 October 2020 in accordance with Service Circular No. 6 of 2013 issued by the government. The Integrity Unit operates on the Pekan campus and is under the management of the Vice Chancellor's Office (PNC). It is the vision of the UMP Integrity Unit to cultivate the values of integrity among UMP staff members as a whole. Furthermore, the mission of the UMP Integrity Unit is also to empower the integrity of UMP citizens through compliance with rules and laws based on the cultivation of noble values and the practice of superior work culture.

Core

1 Governance

Make sure implemented

2 Strengthening Integrity

Ensuring the culture, institutionalization and implementation of integrity in the organization.

3 Detection and Verification

- Detect and verify complaints of criminal misconduct and violations of the organization's code of conduct and ethics and ensure appropriate follow-up action is taken; and
- Report criminal misconduct to the responsible enforcement agency.

4 Complaint Management

Receive and take action on all complaints or information about criminal misconduct and violations of the organization's code of conduct and ethics.

5 Compliance

Ensure compliance with applicable laws and regulations; and

6 Discipline

Implement functi man faith Disciplinary Board.

The main goal of each program that is conducted is to give awareness to all UMP staff regarding the dangers of corruption and the need to practice the value of integrity in the workplace. Staff exposed to actions or deeds that amount to disciplinary offenses and can be punished up to dismissal. This is important to give awareness to all staff to comply with existing rules and laws.



Table 16.1: List of Programs in 2021

NO.	PROGRAM	DATE	PLACE
1.	Webinar: Integrity When BDR: Ask the Same Heart	June 14, 2021	Online
2.	Information Session on Section 17A of the MACC Act to HODs UMP	August 9, 2021	
3.	Mind Transformation Program: Integrity Management and Safety	August 26, 2021	
4.	Corporate Liability Course Slot Session Invitation at under Section 17A of the MACC Act 2009	September 6, 2021	Online
5.	Integrity in Research: Or Responsibilities Pressure	September 9, 2021	
6.	Disciplinary Management under Act 605	November 18, 2021	
7.	Ethics and Integrity at Work with UMP Holdings Sdn. Bhd.	December 7, 2021	UMP Holdings Sdn. Bhd.



University Internationalization

Some Memorandum of Understanding (MoU), Memorandum of Agreement (MoA) and Letter of Intent (LoI) can be signed.

Diagram 17.1: List of International Conferences in 2021



Table 17.1: List of MoUs, MoAs or LoIs That Have Been Signed in 2021

INDONESIA	KAZAKHSTAN	TURKEY	GERMANY	JAPAN
<ul style="list-style-type: none"> University Muhammadiyah Magelang Brawijaya University, Binus University Cilacap State Polytechnic 	<ul style="list-style-type: none"> Al-Farabi Kazakh National University S. Seifullin Kazakh Agrotechnical University Kazakh National Agrarian University 	<ul style="list-style-type: none"> Bolu Abant Izzet Baysal University Suleiman Demirel University 	<ul style="list-style-type: none"> HTWG Konstanz University 	<ul style="list-style-type: none"> Iwate University
		CHINA	YEMEN	KOREA SOUTH
		<ul style="list-style-type: none"> Hebei University Tianjin Normal University Shaanxi Railway Institute 	<ul style="list-style-type: none"> Hadhramout University 	<ul style="list-style-type: none"> Chonnam National University

Collaboration with the Industry

Diagram 17.2: Collaboration with the Industry for Career Development and Placement as well as Cooperating with Domestic and Overseas Job Seeking Agents

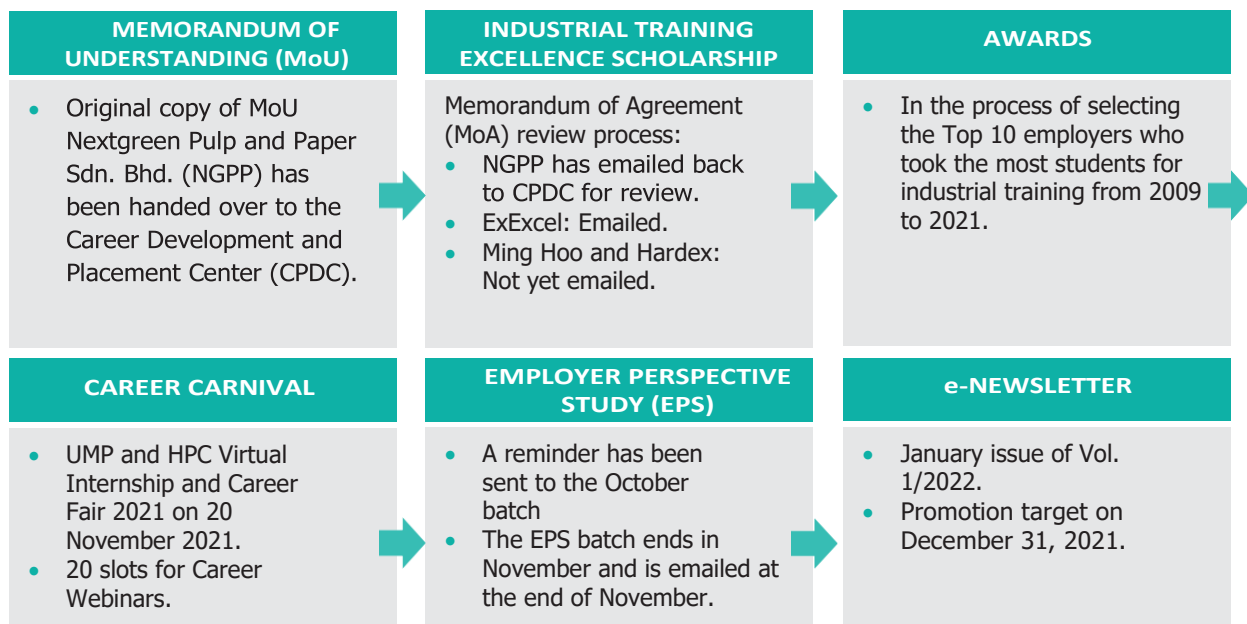
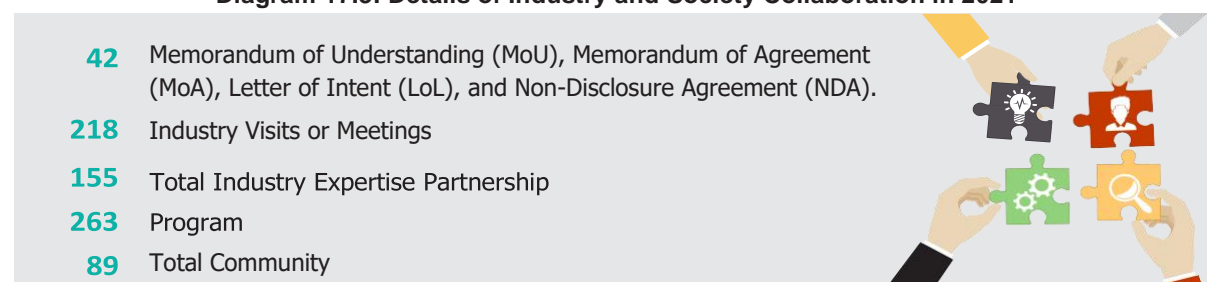


Table 17.2: List of Career Development Programs in 2021 Online

NO.	PROGR AM	DATE
1.	Abroad Internship Sharing Program	March 10, 2021
2.	Self-Awareness and Career Roadmap	March 17, 2021
3.	Career Readiness for Future Talent	March 31, 2021
4.	Virtual Industrial Visit toTop Glove	April 7, 2021
5.	Your English Matters	April 14, 2021
6.	Branding personnel	April 28, 2021
7.	Career Talk: The Pursuit of Happiness	June 9, 2021
8.	Emotional Preparation Before Entering the Workplace	June 10, 2021
9.	Creative Multimedia Course: Digital Video Editing	July 28, 2021
10.	Creative Multimedia Course: Essential Graphic Design	August 3, 2021
11.	UMP Virtual Career Power Week: Opening Ceremony and Hired from Home Webinars	September 12, 2021
12.	UMP Virtual Career Power Week: Get a Job? How is that?	September 13, 2021
13.	UMP Virtual Career Power Week: Persuasive Communication 101	September 14, 2021
14.	UMP Virtual Career Power Week: Ready to Work or Not?	September 15, 2021
15.	UMP Virtual Career Power Week: I am not a doormat	September 16, 2021
16.	Roadmap to Internship Preparation	October 27, 2021
17.	Walkthrough and Internship Preparation Talk: Score your Internship	November 10, 2021

Industry and Community Collaboration

Diagram 17.3: Details of Industry and Society Collaboration in 2021**Table 17.3: The Impact of the Industry and Society Collaboration Initiative in 2021**

STUDENT DEVELOPMENT	RESEARCH AND INNOVATION	COMMUNITY DEVELOPMENT
<ul style="list-style-type: none"> Industrial training placements, 2u2i, 3u1i and WBL. Review and evaluation. Program curriculum structure. Sponsorship. Sharing knowledge and industry expertise. Certification and training. 	<ul style="list-style-type: none"> Funding and sharing of industry and university research grants and expertise. Some Memorandum of Understanding (MoU), Memorandum of Agreement (MoA), Letter of Intent (LoL), and Non-Disclosure Agreement (NDA). 	<ul style="list-style-type: none"> Sharing knowledge and expertise with external communities for the purpose of improving skills and technological benefits. The communities that benefit are schools, government agencies, small and medium industrial operators and the local community

Table 17.4: List of Types of Cooperation Agreements between UMP and Industry or Community Year 2021

RENTAL AGREEMENT	NON-DISCLOSURE AGREEMENT (N.A.)	RESEARCH COLLABORATION AGREEMENT(RCA)
<ul style="list-style-type: none"> Hicom University College Sdn. Bhd. 	<ul style="list-style-type: none"> Kaneka Group of Companies Kebun Kota Sdn. Bhd. Peat Organic Sdn. Bhd. Aerotech Asia Sdn. Bhd. 	<ul style="list-style-type: none"> International Islamic University of Malaysia (UIAM) YP Plantation Holdings Sdn. Bhd.
MEMORANDUM UNDERSTANDING (MoU)	MEMORANDUM OF AGREEMENT (MOA)	AGREEMENT
<ul style="list-style-type: none"> Edustats Solutions Roadcare (M) Sdn. Bhd. Serba Dinamik Sdn. Bhd. Terengganu Oil & Gas Council (TOCG) Mie Offshore Solutions Sdn. Bhd. Empowerment of Infaq-Community Kitchen Digital Infrastructure Between Kuantan Community Kitchen Infaq Organizations BLOCKWORQ Sdn. Bhd. Ideal Vision Integration Sdn. Bhd. Ones System Sdn. Bhd. Terra Drone Technology Malaysia Sdn. Bhd. UCT Solutions Sdn. Bhd. and the Malaysian-German Engineers Association Nextgreen Pulp & Paper Sdn. Bhd. Small and Medium Enterprises Corporation of Malaysia Federation of JPK Accredited Centers Malaysia Go Automobile Manufacturing Sdn. Bhd. Vacuumschmelze (Malaysia) Sdn. Bhd. Malaysian Youth Development Research Institute (IYRES) Project Management Institute Malaysia Chapter (PMIMY) Skillseed Sdn. Bhd. Singularity Aerotech Asia Sdn. Bhd. KIARAFICS Sdn. Bhd. 	<ul style="list-style-type: none"> Cardas Research & Consulting Sdn. Bhd. (CRCG) Talent Corporation Malaysia Berhad Cybersecurity Malaysia 	<ul style="list-style-type: none"> Malaysia Toray Science Foundation Technology Sales and Purchase Agreementin betweenUMP with Eastern Unity Technology Sdn. Bhd. Industry Promotion and Development Grant (IDPG)Agreement between UMP and Malaysian Technical Standards Forum Bhd. Fund Management Agreement for Bumiputera Entrepreneur Development Program 2020 (DPUB 2.0) between UMP and Teraju Bumiputera Corporation Technology Research FundingAgreementbetween UMP Eastern Unity Technology Sdn. Bhd. Partnership Agreement MYSUN - Malaysian Sustainable University Campus Network The Sponsorship Agreementat between UMP and Nextgreen Pulp & Paper Sdn. Bhd. The Sponsorship Agreementatbetween UMP and Hardex Corporation Sdn. Bhd. The Sponsorship Agreementatbetween UMP and Ec Excel Wire Sdn. Bhd. The Sponsorship Agreementatbetween UMP and Chua Ming Hooi Construction Sdn. Bhd.

Table 17.5: List of High Impact University, Industry and Community Engagement Programs in 2021

NO.	PROGRAM	RESPONSIBILITY CENTER (PTJ)
1.	KTP Project: GSP 48 Measuring Instrument Application for Divorce Application Case Due to Witchcraft Disturbance in the Syariah Court in Malaysia	Modern Language Center (PBM)
2.	KTP Project: Biofeedback Technology Use Course to Increase the Success of Counseling Sessions at Schools Ministry of Education Malaysia	
3.	Video Editing Class	
4.	KTP Project: Training of Wastewater Treatment System for KY Global Sdn. Bhd.	Faculty of Chemical Engineering Technology and Process (FTKKP)
5.	Cyber Security Webinar.	Faculty of Computing (FK)
6.	Expertise sharing with Sultanah Hajah School Kalsom (SHAKS)	
7.	Expertise Sharing with the Management Body Bersama (JMB) Sutravilla 2	
8.	My ElementEdu:People's Experience Sharing Platform Malaysia Abroad	
9.	School Safety and Health Seminar	Faculty of Industrial Science and Technology (FSTI)
10.	Workshop with the Malaysian Pineapple Industry Board	Center for Design and Technology Innovation (PrinT)
11.	ECRL Industrial Skills Training (PLKI-ECRL) at the University Malaysia Pahang (UMP-MRL-CCCC)	
12.	HRDF Generator Logistics Halal Course	Department of Graduate Development
13.	Online Class Project Ninja@UMP STEM Lab	
14.	Webinar Forum PdPR Challenges and Solutions in Rural Areas: Practical Tips for Preparing Teaching Materials and Quality Assessment.	
15.	UMP STEM Lab Program 2021- Web Development	
16.	Professional Talk Series Program with Ustaz Ebit Lew - Community Development Through Social Entrepreneurship	
17.	Professional Talk Series Series 1: Blockchain Technology and The COVID-19 pandemic	
18.	Professional Speaking Series Series 2: Facts, Fables and Potential	
19.	Blockchain Technology in the Halal Industry	
19.	COVID-19 Professional Talk Series: A Lifeline for Contractor	
20.	Professional Talk Series - Industrial Leader Talk in Logistics: The Way Forward to Hassle Free Exports in The Logistics Business	
21.	Professional Talk Series - Industrial Leader Talk in Logistics: Maritime Logistics: Global Trends, Issues and Solutions	
22.	UMP STEM Lab Program 2021: Arduino Programming	
23.	UMP STEM Lab Program 2021: 3D Modelling	
24.	UMP STEM Lab 2021 program: Pahang STEM Carnival 2021 National Hackathon	
25.	UMP STEM Lab Program 2021: STEM Carnival 2021- See. Think. Webcast	
26.	UMP STEM Lab Program 2021: mBlock Programming	
27.	SKAC Entrepreneurship Week Closing Ceremony 2021	
28.	Arduino Software Introduction Course	Faculty of Mechanical and Automotive Engineering Technology (FTKMA)
29.	Empowering School Teachers with Educational Technology	Center for Ecosystem and Resource Sustainability Nature (Nature Center)
30.	Ground Penetrating Radar Seminar	Faculty of Industrial Management (FPI)
31.	FiMiEx Forum 2021: Vaccinate Innovation	College of Engineering (KKEJ)
32.	Basic Robotics Course	

NO.	PROGRAM	RESPONSIBILITY CENTER (PTJ)
33.	Risk Based Inspection (RBI) Training for RBI Team at KANEKA	Center for Mathematical Sciences (PSM)
34.	Workshop on Optimization for Industry– (Mass Rapid Transit Corporation Sdn. Bhd., Polyplastics Asia Pacific Sdn. Bhd., Kerry Group and A. Sani & Associates Sdn. Ltd.)	
35.	Data Analytics Industrial Talk titled Digital Era: The New Way of Working	
36.	Mobile Android Development Training Course using Google Site for beginners (for small entrepreneurs)	Integrated Computing and Software Development Center (Software Center)
37.	Blockchain Application Course in the Livestock Industry - DVS MyWallet	
38.	Training Hybrid Metaheuristics and Its Application: From Theory to Implementations	
39.	Programming Training with Python and Data Visualization	
40.	Fundamental Training of Secure Software Development: Secure Code Practice in Software Development (Level 1)	
41.	Training Build an Interactive Machine Learning Web Application	
42.	TVET Mandarin for Laboratory Tester of ECRL	Confucius Institute UMP

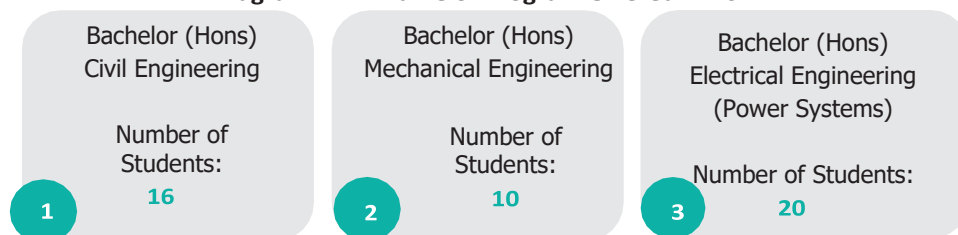
Dual Degree Program Offer Semester 1 Academic Session 2021/2022 (Rail Engineering)

This program is a joint initiative of UMP and the Public Service Department (JPA) in offering a rail engineering program in collaboration with Beijing Jiaotong University (BJTU) (QS Ranking #751-800) (1st rank Transportation Science and Technology). JPA agreed to offer scholarships to 46 UMP students Year 1 Academic Session 2020/2021 as the first cohort to follow this program in Semester 1 Academic Session 2021/2020.



This program is a new route in offering dual degree programs in collaboration with foreign universities. This type of program method is the first to be implemented by an educational institution under the supervision of the Engineering Accreditation Council Malaysia (EAC) and UMP is the first Public University (UA) as a pioneer.

Diagram 17.4: Name of Program Offered in 2021



Memorandum of Understanding (MoU), German Academic Cooperation Center (PKAJ)




Table 85: List of Memorandum of Understanding (MoU) Year 2021 Online

NO.	MEMORANDUM OF UNDERSTANDING (MoU)	DATE
1.	MoU between UMP and Vacuumschmelze (VAC)	November 8, 2021
2.	MoU between UMP and Konstanz University of Applied Sciences (HTWG-Konstanz) Germany	December 15, 2021

Academic Program Collaboration with Domestic or Foreign Educational Institutions

Diagram 17.5: Collaboration of Academic Programs with Domestic or Foreign Educational Institutions in 2021

MONITOR  Muscat College	COAST  INSTEP INSTITUT TEKNOLOGI PETROLEUM PETRONAS	COAST  COAST	 Education MALAYSIA GLOBAL SERVICES	 Tianjin University
Bachelor of Management Project with Honor	Master of Science (Process Plant Operations)	Masters Mechanical engineering	UMP collaboration with Education Malaysia, Beijing	Collaboration with Tianjin University.
Bachelor Science Computer (Engineering software) with Honor			To explore cooperation opportunities with higher education in China	Program Masters Engineering Chemistry with honor has been approved for offer in Sem 1 2022/2023
Bachelor Science Computer (System Computers and Network) with Honor				

Confucius Institute UMP

The Mandarin Language and Culture Center (MLCC) was established in 2011. With the support of the Ministry of Higher Education (KPT), Confucius Institute Headquarters (Hanban) and Hebei University (HBU), MLCC has now been upgraded to the Confucius Institute in 2018.

The cooperation between the two universities involves language and cultural activities, and the internationally recognized Mandarin-Hanyu Shuiping Kaoshi (HSK) language fluency test is also held. It also involves offering scholarships, staff exchange and academic collaboration.

UMP student Winning Chinese Bridge Competition Malaysian Level and Representing Malaysia at the Global Level

Syahirah Syazwani Shamsudin from the Faculty of Computing (FK), UMP has won first place in the 20th Chinese Bridge Chinese Proficiency Competition for Malaysian Preliminary. He represents

country in the 20th Chinese Bridge Competition Global Finals, which took place on September 22, 2021 and received the Excellence Award at the world level



Online International Academic Programs with Chinese Universities

Confucius Institute UMP has recommended 162 candidates who got excellent results in the international HSK test to *Center for Language Education and Cooperation (CLEC)*, China for the Chinese scholarship application and then follow Mandarin language and culture programs online with Chinese universities. To make the International Academic Program online with Chinese universities a success, the Confucius Institute has planned learning content with Chinese universities.

Table 17.6: List of Programs for Online China Scholarships in 2021

NO	PROGRAM	TOTAL OF STUDENTS	DATE
1.	<i>Online Mandarin and Cultural Program with Hebei University</i>	76 UMP students	2 to January 17, 2021
2.	<i>2021 Online Summer Program by Shanghai University</i>	9 UMP students and MARA Professional College	July 12 to August 6, 2021
3.	<i>Online Mandarin Program with Hebei University</i>	17 UMP students and University of Malaysia Kelantan (UMK)	August 23 to 17 September 2021
4.	Mandarin Language and Chinese Culture Course	60 school students secondary schools throughout Malaysia	13 to 24 December 2021

International student

An international environment can be created by increasing the number of international students enrolled on campus. Local students have the opportunity to gain experience through learning activities with international students and be exposed to the process of cultural assimilation.

In 2021, there will be a total of 435 international students at UMP.

Picture Figure 82: Number International Student Year 2021

170 **265**
Undergraduate Postgraduate



International Student Countries

Yemen, Bangladesh, Indonesia, India, Pakistan, Libya, China, Sudan, Iraq, Somalia, Egypt, Syria, Nigeria, Jordan, Iran, Saudi Arabia, Algeria, Kyrgyzstan, Saudi Arabia, Tanzania, Yemen, United Arab Emirates, Mauritius, Oman, Uzbekistan, Ethiopia, Palestine, and Thailand.

Table 17.7: Details of International Students in 2021

ITEM	TOTAL
Current year's active international student enrollment (Undergraduate and Postgraduate)	435
Number of active UMP students in the current year (excluding UMPA students)	13,547
Percentage of international students	3.21%

Table 17.8: Enrollment of Undergraduate International Students According to the Year 2020 Program

UNDERGRADUATE	
PROGRAM	STUDENTS
Diploma	1
Dual Degree	1
Bachelor	162
Preparatory Intensive English (PIE)	5
Transfer Program	1
Mobility Program (Inbound)	0
OVERALL TOTAL	170

Table 17.9: Postgraduate International Student Enrollment According to the Year 2020 Program

POSTGRADUATE	
PROGRAM	STUDENTS
Master (Research)	62
Masters (Coursework)	2
Masters (Mixed mode)	1
Doctorate degree	200
Pre-session English Course (PEC)	0
Mobility program (Inbound)	0
OVERALL TOTAL	265

UMP Student Mobility

Table 17.10: UMP Student Mobility List Year 2021

NO.	DATE	PROGRAM MOBILITY ACTIVITY	PARTICIPANTS
VIRTUAL SUMMER			
1.	16 to 20 August 2021	Language Virtual Program (Destination Malaysia)	21
2.	9 to 19 August 2021	Virtual Faculties	63
3.	15 to 20 August 2021	Entrepreneur Virtual Program (UNIMA)	40
4.	October 9, 2021	Destination Malaysia Camp Compassion (Cooperation with Hebei University)	12
VIRTUAL INBOUND MOBILITY (NON-CREDIT)			
5.	Semester I 2021/2022	Informatics and Computer Management College (STMIK) Primakara, Indonesia	10

Industrial Training Abroad

UMP students are also encouraged to undergo industrial training abroad as the main exposure before stepping into the world of work. From 2011 to 2021, a total of 181 students underwent industrial training abroad.

Diagram 17.6: Number of Students Undertaking Industrial Training Abroad From 2011 to 2021



181 students

United States, India, Korea, Singapore, Australia, United Kingdom, Brunei, Ireland, China, Thailand, Saudi Arabia, Turkey, Yemen, Japan, Germany, Indonesia, Taiwan, Sudan, and Canada

UMP students are encouraged to undergo industrial training abroad as their main exposure before entering the world of work. In 2021, a total of 32 students (Malaysian and overseas) have undergone industrial training abroad.

Table 17.11: Number of Students Undertaking Industrial Training Abroad in 2021

NO.	COUNTRY	TOTAL
1.	United States of America	1
2.	Saudi Arabia	19
3.	Oman	1
4.	Turkey	3
5.	Taiwan	1
6.	Republic of Somalia	2
7.	Germany	4
8.	Singapore	1
OVERALL TOTAL		32



German Academic Cooperation Center (PKAJ)

DAAD Award

Alumni of the UMP-German dual degree program are recognized. Danial Haris Limi Hawari, a graduate of the Bachelor of Mechatronics Engineering (Honours) program (BHM), intake in 2015, has received the Deutscher Akademischer Austauschdienst (DAAD) Award for the international student category in conjunction with the HKA Annual Academic Celebration. Currently, he is continuing his studies at the master's level through The Joint Master Degree in Mechatronic Engineering (EU4M) program.

Confucius Institute UMP organizes online Mandarin Teacher Training

Confucius Institute has organized Online International Training Mandarin Teachers in Malaysia on 1 to 3 September 2021 for 27 Mandarin language lecturers from MARA Professional College (KPM) in Malaysia, namely KPM Ayer Molek, KPM Bandar Melaka, KPM Beranang, KPM Indera Mahkota and KPM Seri Iskandar Organizing training online not only benefits all lecturers from various states to have the opportunity to participate in this workshop, but is also the best way to comply with social distancing during the COVID-19 pandemic in Malaysia.

Institute of Civilization and Strategic Studies (ITKAS)



Referring to the UMP notification letter to His Majesty the King XVI with reference number UMP.02.01/21.15/3 Volume 2 (25) signed by the UMP Registrar which is:

"An institute known as INSKEP under the Faculty of Industrial Management has been rebranded as ITKAS."

The establishment of ITKAS was approved at the University Board of Directors Meeting Number 4/2020 on 23 November 2020 through a motion to rebrand INSKEP as ITKAS from the Chairman of the University Board of Directors, Tan Sri Dato' Sri Dr. Abdul Aziz bin Abdul Rahman, Administrative Instructions for the transfer of ITKAS are referred to the minutes of the University Management Committee (JKPU) meeting of the 153rd Special UMP Number 11/2021 Article 2.6 (i):

The Institute of Civilization and Strategic Studies (ITKAS) was transferred under the UMP Foundation

As a measure to strengthen the organization, ITKAS was transferred to the UMP Foundation and has a new organizational structure according to the idea introduced by the Chairman of the UMP Board of Directors which has three main driving committees namely:

- Civilization Committee;
- Strategic Studies Committee; and
- Volunteer Committee.

ITKAS and Paya Besar

The Paya Besar Parliamentary Development Strategic Plan 2030 lays down the Development Vision to 'Make the Paya Besar area a Major Education Hub in Malaysia of an international standard'. It is to achieve the main goal of the Paya Besar Development Strategy which is to produce first-class citizens and aim for zero poverty as well as promote economic growth to increase more job opportunities so that the people in this parliament are proud to be citizens of Paya Besar.

This study of the 2030 Paya Besar Parliamentary Strategic Development Plan outlines four main development strategies.

- Better education;
- Criminal cases and traffic accidents among staff and students;
- Occupational accidents; and
- People's well-being.

In this study, the PEKA rakyat strategy aims for the development of seven main cores.

- Education;
- Economics;
- Infrastructure;
- Religion and Welfare;
- Leadership;
- Health; and
- Safety

Technology for Society

Table 17.12: List of Corporate Social Responsibility (CSR) and Community Service in 2021

NO.	PROGRAM	DATE	LOCATION
1.	Bank Foundation Education Program Impact Study People (YBR)	January 2021	UMP
2.	Basic Robotics Workshop, Microcontroller Programming, Programming, Microsoft Office and Using Google Classroom with Citizens Educator		Online
3.	Post Flood Volunteer Mission	January to December 2021	Kuantan, Pekan, Temerloh, Mentakab
4.	SolidWorks Workshop	2 January 2021	Online
5.	Webinar: Occupational Safety and Health ACT 1994	2 January 2021	Online
6.	Back to School Program	9 Jan 2021	Mydin, Kuantan
7.	Speak Up 4.0	22 February 2021	Online
8.	Earth Hour 2021 #connect2earth Pledge for Nature Contest	1 March 2021	
9.	My school is my university	12 to 14 March, 19 to 21 March and 26 to 28 March 2021	Pasir Mandi Island National School, Temerloh
10.	Shooting Notes from Nature Episode Purun Temurun Together with RTM	21 March 2021	Runchang Village, Town
11.	World Water Day Pahang State Level	27 March 2021	Sungai Balok, Kuantan
12.	Prihatin Pilgrimage PRInT	14 April 2021	Taman Seri Inderapura
13.	Engineering for Life	18 April 2021	Online
14.	Rent House Search Forum	25 April 2021	
15.	Khatam Jamaie	26 April 2021	
16.	Preloved with Love Welfare Program	10 April 2021	
17.	CIDB Green Card Workshop	10 April 2021	
18.	Financial Literacy Students	3 April 2021	
19.	KAUMP Doodle Challenge	3 May 2021	
20.	1 Webinar: Internship in Germany 101	22 May 2021	
21.	Beauty And Skincare Talk	30 May 2021	
22.	Career Talk	28 May 2021	
23.	Arduino Robotics 12 - SMK Pekan	5 May 2021	
24.	CADEC Industrial Talk: Embarking Your Internship and Career	28 May 2021	
25.	I am an off-campus student	5 June 2021	
26.	Effective e-mail writing	2 June 2021	Online
27.	PDPR Challenges and Solutions Webinar Forum Program in Rural Areas: Practical Preparation Tips Quality Teaching and Assessment Materials	29 June 2021	FB ICoN (https://www.facebook.com/ICONUMP)
28.	UMP Virtual Run and Ride for Palestine	12 September to 30 October 2021	Online

Source

Laporan Tahunan Universiti Malaysia Pahang 2021

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