



اونيورسيتي مليسيا فھڠ  
UNIVERSITI MALAYSIA PAHANG



# SUSTAINABLE DEVELOPMENT GOALS REPORT

UNIVERSITI MALAYSIA PAHANG  
MALAYSIA  
2021

[www.ump.edu.my](http://www.ump.edu.my)



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.

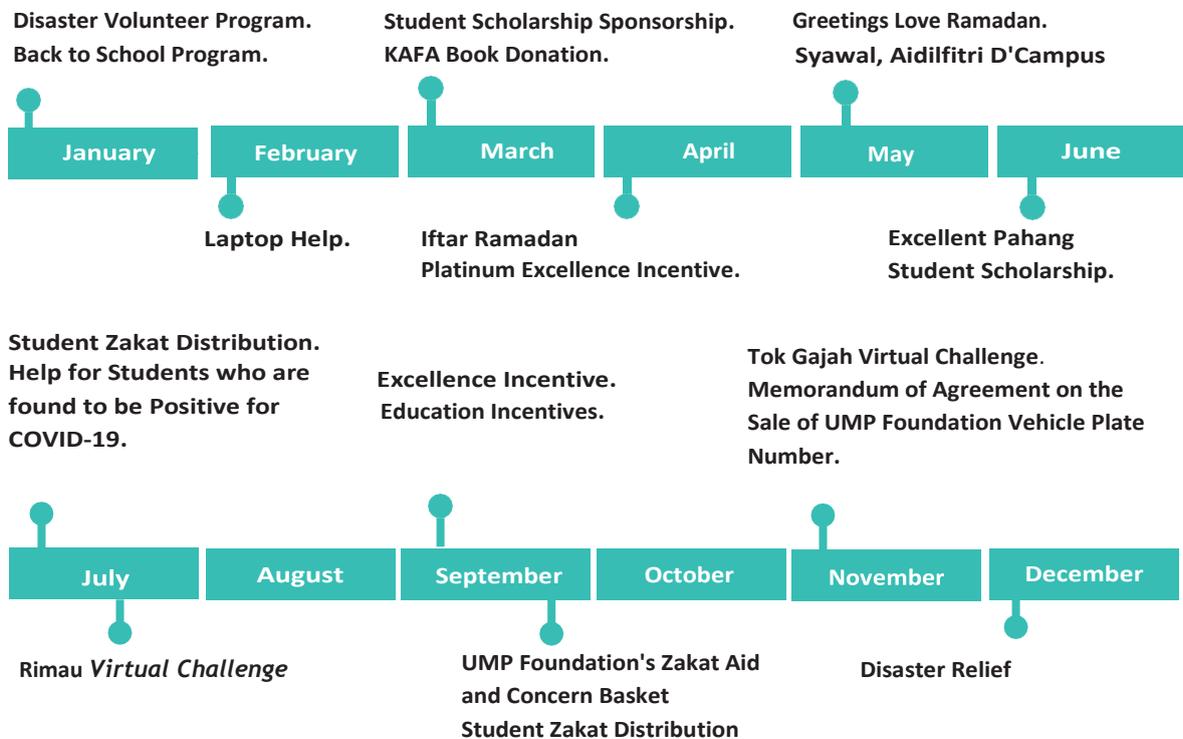


Diagram 1.2: Timeline of Activities and Programs in 2021

## Collaborative Partner



Student Welfare,  
Ramadan



I & P Group

Student's  
welfare



Student's welfare



Special Program for  
Students, Community,  
and Ramadan



Student's  
welfare



Student's welfare



Student's welfare



Student Welfare and  
Excellence



Community and Ramadan



Charities, Scholarships  
Students and Disasters



Welfare and  
Students



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        |
| <b>OVERALL TOTAL</b> |                                       | <b>1,584,423.00</b> | <b>5,243</b> |



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         |
| <b>OVERALL TOTAL</b> |   | <b>4,551</b> | <b>RM280,500.00</b> |



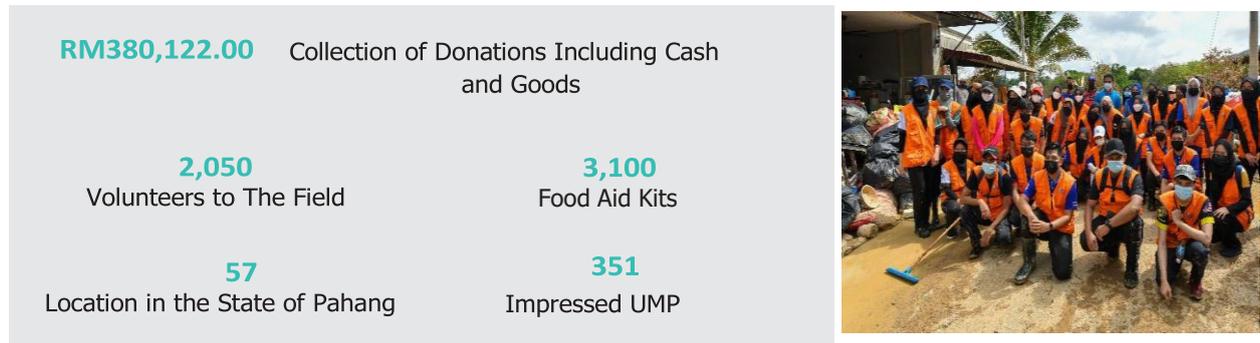
The Touch of Love program at Riyaddus Solihin Tahfiz Pondok, Kampung Semangat, Pekan, Pahang is one of the UMP Foundation's initiatives to pamper and purify the atmosphere in the pondok area with the tahfiz children. A total of 59 UMP students have participated in the effort to clean, paint, and cook. 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

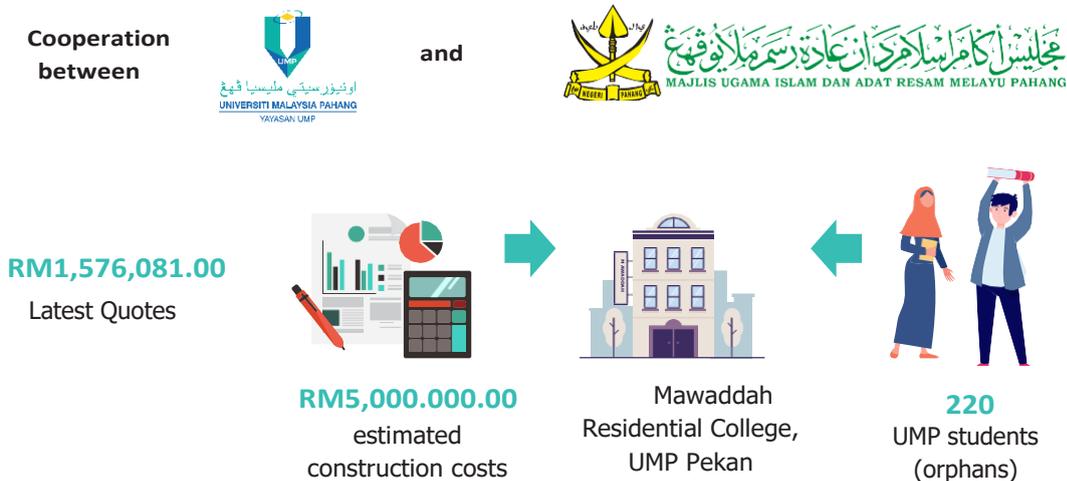
Diagram 1.5: Summary of Flood Disaster Reports from January 3 to February 15, 2021 and 21 to 31 December 2021



## 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**

|                                   |             |                    |
|-----------------------------------|-------------|--------------------|
| <b>255</b>                        | <b>89</b>   | <b>166</b>         |
| Total Number of<br>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  | <b>3,712</b> students | May     | <b>1,841</b> students |
| August | <b>11</b> students    | October | <b>6,032</b> 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  |
|--------------------------|--|--|--|
| <b>Agency</b>            | <ul style="list-style-type: none"> <li>• Pekan District Health Center</li> </ul>   | <ul style="list-style-type: none"> <li>• Office of the Secretary to the Government (SUK) of Pahang</li> <li>• Pahang Medical Center</li> </ul> | <ul style="list-style-type: none"> <li>• COVID-19 Immunization Special Task Force (CITF)</li> <li>• Halim Nor Clinic</li> <li>• Rahimi Clinic</li> </ul> |
| <b>Date</b>              | June 14 to August 25 2021  | Dose 1: August 16 to 17, 2021<br>Dose 2: August 29, September 6 to 7, 2021   | Dose 1: September 8 to 13, 2021<br>Dose 2: October 3, 2021   |
| <b>Place</b>             | <ul style="list-style-type: none"> <li>• Hall of DRB Hicom University of Automotive Malaysia (DHUAM), Pekan</li> <li>• Hall of MARA Skills Institute, Tan Sri Yahaya Ahmad (IKM TSYA), Town</li> </ul> | <i>Dewan Serbaguna, UMP Pekan</i>  |  |
| <b>Amount Cumulative</b> | -  | <b>4,182</b>   | <b>2,510</b>   |

## “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

| Date  | 59 Donor                           | 120 Donor         | 121 Donor                  |
|-------|------------------------------------|-------------------|----------------------------|
|       | 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)

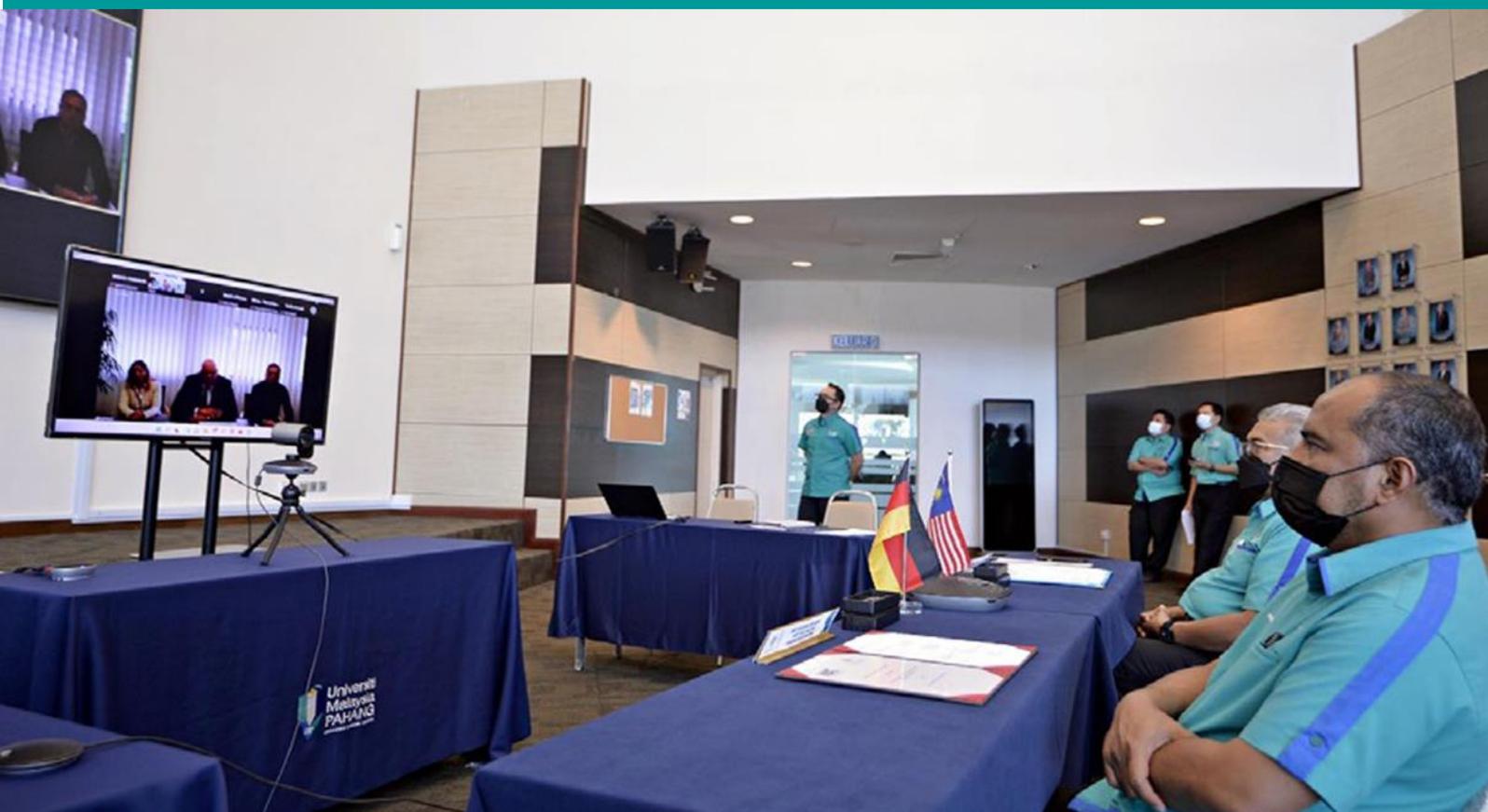




**Diagram 3.4: Details of UMP's COVID-19 Quarantine and Treatment Center (PKRC).**

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

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

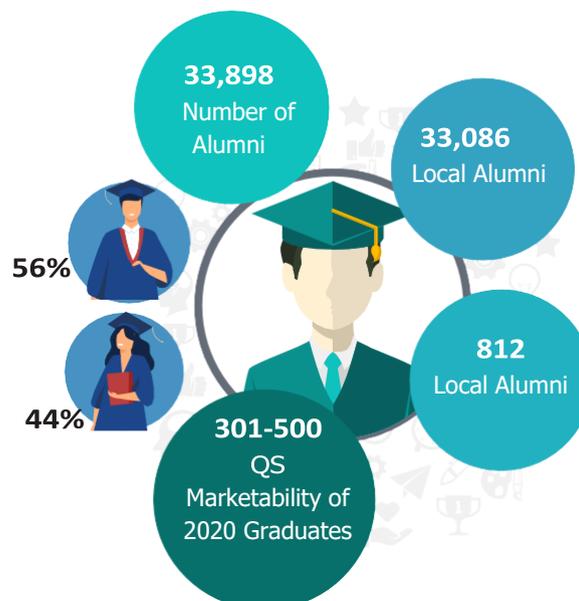
90%  
Target

96.04%  
Achieve



## Alumni Relations and Graduate Marketability

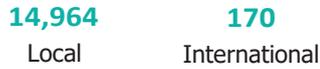
Diagram 4.2: Details of Alumni Statistics Year 2021



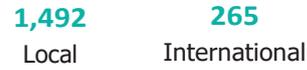
Source: QS Graduate Employability Rankings 2021

## 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

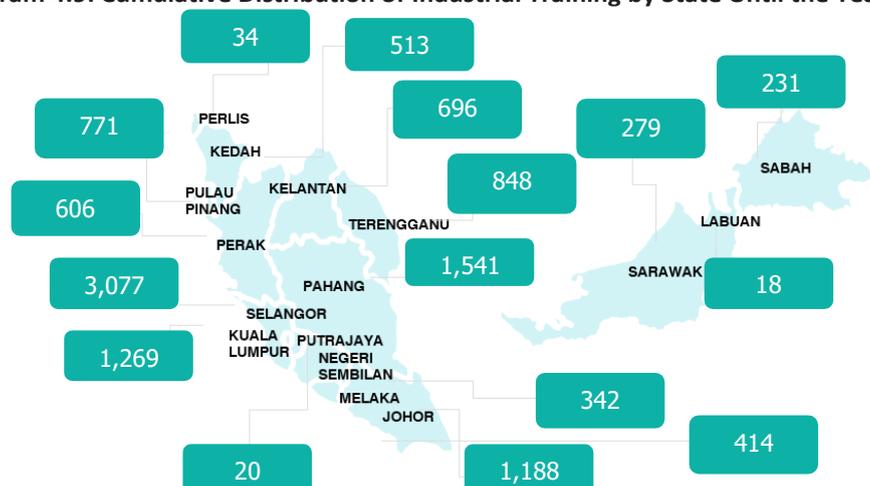
Industry training give opportunities for students to practice and applying what they learn at University to the real situation



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**

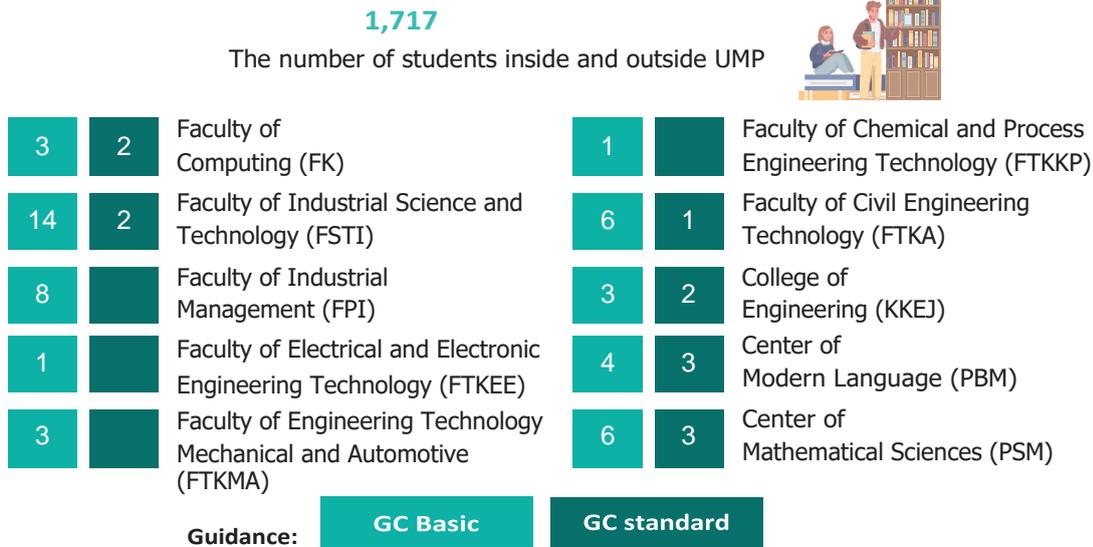


## Global Classroom (GC)

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**



**Table 4.1: Online GC Activities in 2021**

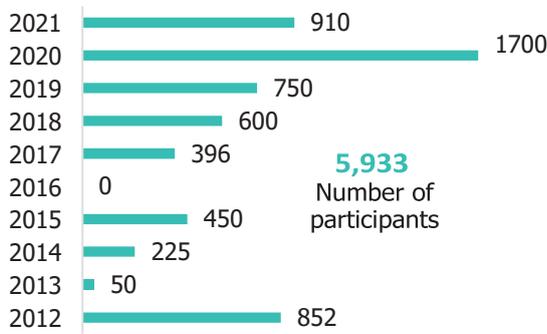
| NO. | PROGRAM   | DATE              |
|-----|---|-------------------|
| 1.  | Webinar: International Environmental Conversation   | May 27, 2021      |
| 2.  | Webinar and Global Classroom Sharing Session: Toxicological Effects of Microplastics on Aquatic Organisms | November 11, 2021 |
| 3.  | Webinar 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**

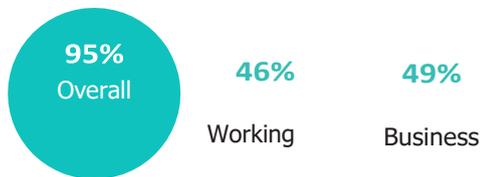


UMP through UMP Advanced has been trusted by the East Coast Economic Region Development Council (ECERDC) to implement a training and skills enhancement program called PENJANA-ECERDC to empower communities in the East Coast Region covering Kelantan, Terengganu, Pahang, and the Mersing district in Johor.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

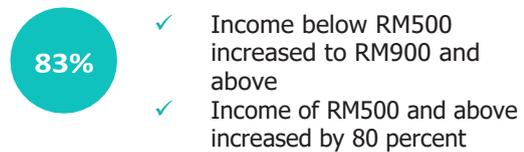
**Chart 4.1: Details of Entrepreneurship and Skills Training Participant Programs from 2012 to 2021**



**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)

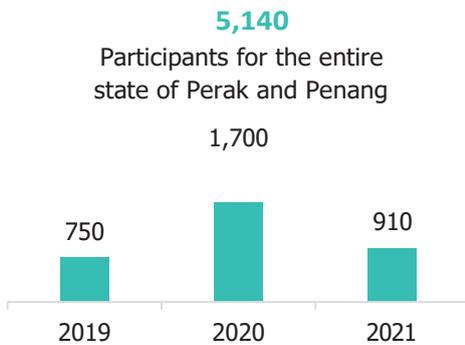
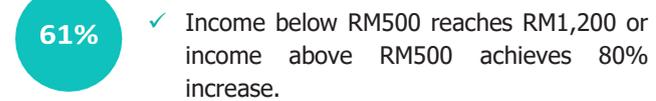


Diagram 4.13: Achievement of Job Placement and Giving birth to Entrepreneurs in 2021



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

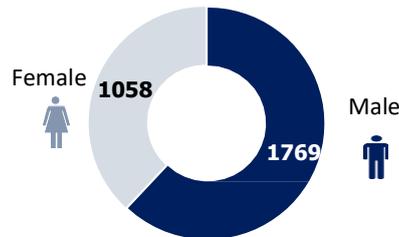


Diagram 5.2: Gender population in bachelor

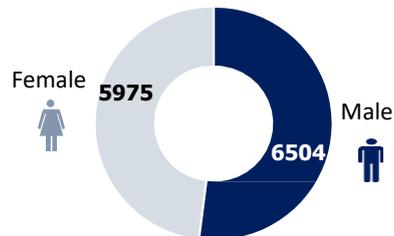


Diagram 5.3: Gender population in Master

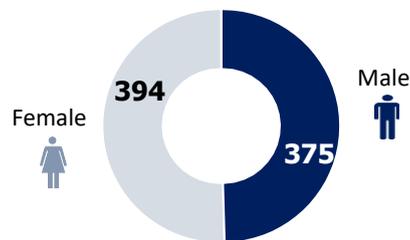


Diagram 5.4: Gender population in Doctor of Philosophy

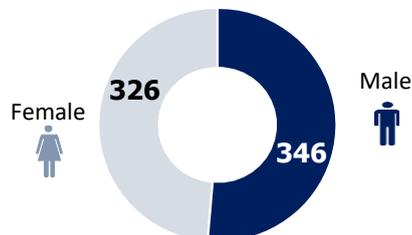
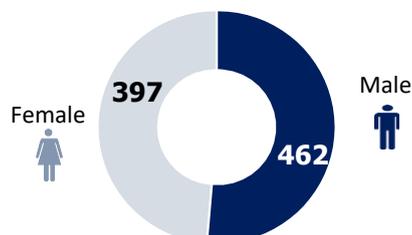


Diagram 5.5: Academic staff according to Gender population



**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

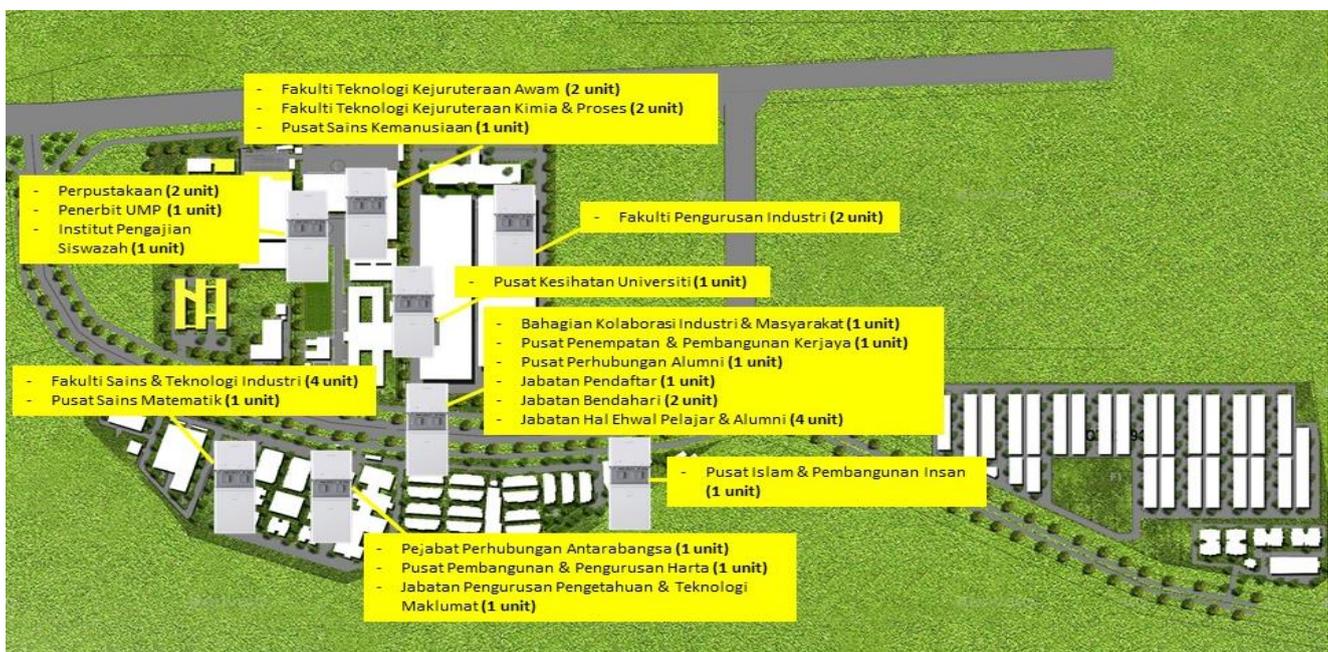
## Drinking Water

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 TASIK                                      | 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"> <li>Mistry of Higher Education, Malaysia</li> </ul> | 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<br>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 |



# 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 <sup>nd</sup> phase Installation of light motion sensors at toilets in UMP Pekan that controlled lighting & exhaust fan                             | 83             | 3,888.00                              |
| <b>UMP GAMBANG CAMPUS</b> |   |                |                                       |
| <b>INITIATIVES</b>        |   | <b>NUMBERS</b> | <b>ESTIMATED KWH SAVING PER MONTH</b> |
| 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<br>250W<br>800W                        | 9,490 kWh                  |
| 10.          | FTKEE                | Solar System             | Will be installed in 2022 | 0.5kW                                       | 912.5kWh                   |
| <b>TOTAL</b> |                      |                          |                           |   | <b>54,288 kWh</b>          |

## 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

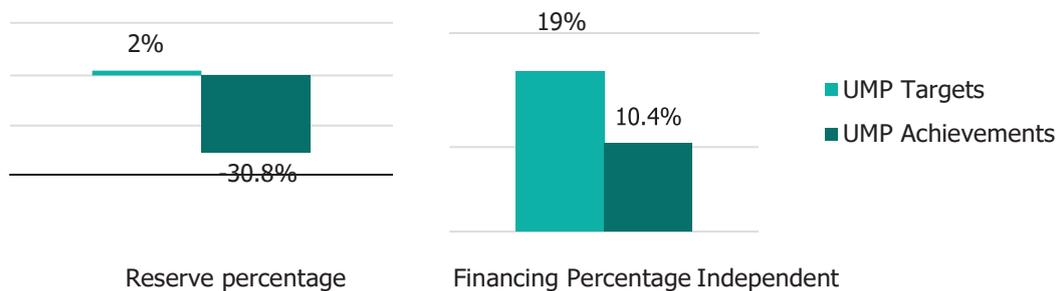
The first core focuses on UMP's financial strength through increased reserves and increased self-financing capabilities through a social entrepreneurship approach. Accordingly, these two things have been set as the main performance indicators for strengthening UMP's financial resources.

- 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**

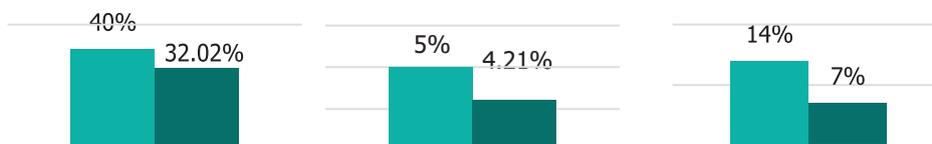


## Reasonable Operational Efficiency

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 2<sup>nd</sup> 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. | Germs 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><b>TOOLS BIOFEEDBACK</b><br/>(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><b>PRODUCT PREPECTO</b><br/>(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><b>ISZUANI HONGO1</b><br/>(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><b>PRODUCT BIO ROOT TONGKAT ALI CAPSULES</b><br/>(RM8,216.00)</p> <ul style="list-style-type: none"> <li>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.</li> <li>The Tongkat Ali Bio Root product is a KKM registered product (MAL KKM: 18096082TC) which is widely sold as herbal product after R&amp;D&amp;D was carried out at the UMP Laboratory.</li> </ul> |

### Income Generation From Consulting and Technical Services



### Commercialisation



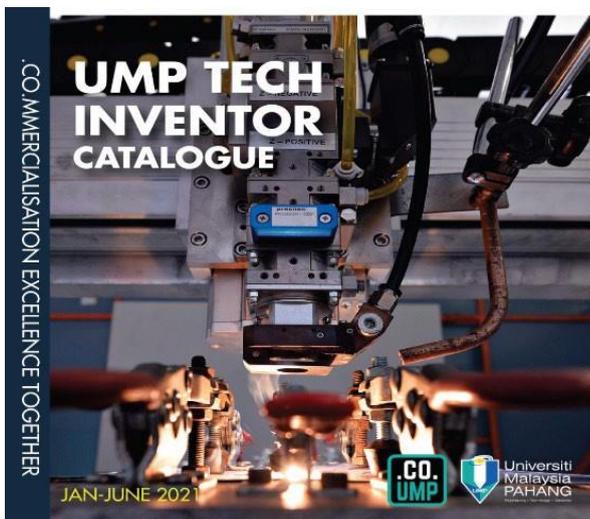
Awarding grants to researchers is one of the university's initiatives in empowering research, innovation and commercialization activities in an institution. For the Office of Commercialization, three main grants that have been allocated help in promoting university research results to commercialization.

- 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  | <b>Herbal Scalp Care Shampoo</b><br>Dr. Rajaletchumy Veloo Kutty  |
| RM182,000.00 | <b>E-Lobster: Smart Water Quality System with Stream Data Analytics for Freshwater Lobster Commercial Farming</b><br>Professor Ir. Dr. Mohd Faizal Jamlos |
| RM67,000.00  | <b>Inspection Technique for Non-Metallic Underground Piping</b><br>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 Catalog 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 (FTKPP)           |

| 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 Szali**  
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

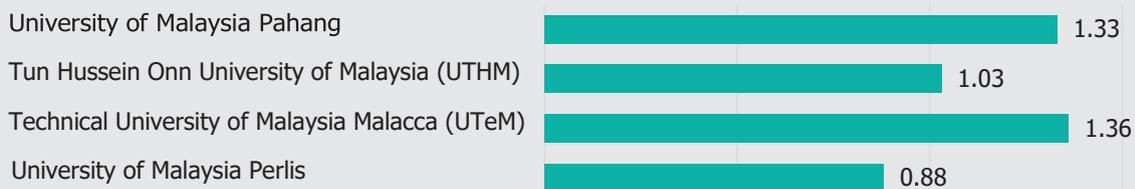


Table 9.7: Program Aimed at Increasing UMP Publications and Citations in 2021

| 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

|   |   |   |   |  |   |
|---|---|---|---|--|---|
| <b>1.65</b><br><b>(1,177)</b>   | <b>0.718</b><br><b>(513)</b>                    | <b>0.679</b><br><b>(485)</b>                    | <b>0.039</b><br><b>(28)</b>                     | <b>0.625</b><br><b>(446)</b>   | <b>64</b><br><b>(45,727)</b>                  |
| 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 Pembangunan Produk UMP | Geran Lab2 Market UMP |                                  | 1. Syarikat Spin-Off melalui Produk | 2. Syarikat Spin-off Melalui Kepakaran | 3. Penjualan/Pelesenan Harta Intelek |
|                 | Geran Penyelidikan Unggul UMP      |                   |                              |                       |                                  |                                     |  |                                      |
|                 | Geran Penerbitan Antarabangsa UMP  |                   |                              |                       |                                  |                                     |  |                                      |
|                 | Geran Padanan Agensi               |                   |                              |                       |                                  |                                     |  |                                      |
|                 | Geran Padanan Antarabangsa         |                   |                              |                       |                                  |                                     |  |                                      |
|                 | Geran Pananan Industri             |                   |                              |                       |                                  |                                     |  |                                      |
|                 | Geran First In The World UMP       |                   |                              |                       |                                  |                                     |  | 4. Perundingan dan Khidmat Teknikal  |
|                 | 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"> <li>Professor Ts. Dr. Md. Mustafizur Rahman, UMP</li> </ul>   | 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"> <li>Professor Ir. Dr. Abdul Latif Ahmad, University of Science Malaysia (USM)</li> </ul>  | 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"> <li>Professor Dr. Shahir Shamsir Omar, Universiti Tun Hussein Onn Malaysia (UTHM)</li> </ul>  | February 16, 2021      |
| 5.  | IPT Internal Panel Workshop for Ministry of Higher Education Research Fund Grant Evaluation                          | <ul style="list-style-type: none"> <li>Professor Ts. Dr. Md. Mustafizur Rahman, UMP</li> <li>Professor Dr. Che Hussain Che Haron, National University Malaysia (SME)</li> </ul>  | 17 to 18 February 2021 |
| 6.  | UMP Research Fund Grant Briefing   | <ul style="list-style-type: none"> <li>Professor Ts. Dr. Kamal Zuhairi Zamli, UMP</li> <li>Professor ChM Dr. Mohd Hasbi Ab Rahim, UMP</li> <li>Associate Professor Dr. Abdul Adam Abdullah, UMP</li> <li>Associate Professor Dr. Ahmed Tarmizi Haron, UMP</li> </ul> | 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> |
| 12. | Faculty of Industrial Science and Technology (FSTI)  | <i>Job Hunting &amp; 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>   | Module         |
| 27. |  | <i>Industry Cases in Technology Management</i>  |                |
| 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.  | <b>IJAME</b><br>International Journal of Automotive and Mechanical Engineering       | March, June, September and December | <ul style="list-style-type: none"> <li>• Volume 18 Issue 1, March 2021</li> <li>• Volume 18 Issue 2, June 2021</li> <li>• Volume 18 Issue 3, September 2021</li> <li>• Volume 18 Issue 4, December 2021</li> </ul> |
| 2.  | <b>JMES</b><br>Journal of Mechanical Engineering and Sciences                        | March, June, September and December | <ul style="list-style-type: none"> <li>• Volume 15 Issue 1, March 2021</li> <li>• Volume 15 Issue 2, June 2021</li> <li>• Volume 15 Issue 3, September 2021</li> <li>• Volume 15 Issue 4, December 2021</li> </ul> |
| 3.  | <b>IJETS</b><br>International Journal of Engineering Technology and Sciences         | January and July                    | <ul style="list-style-type: none"> <li>• Volume 8 Issue 1, Jan 2021</li> <li>• Volume 8 Issue 2, July 2021</li> </ul>  |
| 4.  | <b>IJLEAL</b><br>International Journal of Language Education and Applied Linguistics | June and December                   | <ul style="list-style-type: none"> <li>• Volume 11 Issue 1, June 2021</li> <li>• Volume 11 Issue 2, December 2021</li> </ul>   |
| 5.  | <b>IJSECS</b><br>International Journal of Software Engineering and Computer Systems  | February and August                 | <ul style="list-style-type: none"> <li>• Volume 7 Issue 1, February 2021</li> <li>• Volume 7 Issue 2, August 2021</li> </ul>   |
| 6.  | <b>IJIM</b><br>International Journal of Industrial Management                        | March, June, September and December | <ul style="list-style-type: none"> <li>• Volume 9, March 2021</li> <li>• Volume 10, June 2021</li> <li>• Volume 11 September 2021</li> <li>• Volume 12, December 2021</li> </ul>                                   |
| 7.  | <b>IJHTC</b><br>International Journal of Humanities Technology and Civilization      | July and December                   | <ul style="list-style-type: none"> <li>• Volume 1 Issue 11, July 2021</li> <li>• Volume 1 Issue 12, December 2021</li> </ul>   |

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

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

| NO.                   | DATE                           | ACTIVITY   | PLATFORM                            |
|-----------------------|--------------------------------|--|-------------------------------------|
| <b>ONLINE SALES</b>   |                                |  |                                     |
| 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) |                                     |
| <b>PHYSICAL SALES</b> |                                |  |                                     |
| 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

|   |  |
|---|--|
| <p><b>22</b> Patent filed in Malaysia</p> <p><b>13</b> Granted patents</p> <p><b>40</b> Copyright</p> | <p><b>1</b> Industrial Design filed</p> <p><b>1</b> Trademark</p> <p><b>5</b> Utility Innovation</p> |
|---|--|



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



|               |            |              |              |
|---------------|------------|--------------|--------------|
| <b>22</b>     | <b>109</b> | <b>118</b>   | <b>39</b>    |
| 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  |
|---------------------|--|--|
| <b>GOLD MEDAL</b>   |  |  |
| 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                        | Seashell Porous Asphalt: Sustainable Road Construction   |
| 6.                  | Putrajaya  | 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)                                     |
| <b>SILVER MEDAL</b> |  |  |
| 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                                  |
| <b>SILVER MEDAL</b> |  |  |
| 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  |
| <b>BRONZE MEDAL</b> |  |   |
| 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   |
|---|--|---|
| <b>CHINESE INNOVATION AND INVENTION SOCIETY TAIWAN SPECIAL AWARD AND GOLD MEDAL</b> |  |   |
| 1.  | Associate Professor Ir. Dr. Mohd Hafizi Zohari     | Fiber Bragg Grating System for Engineering Structures Health Monitoring |
| <b>GOLD MEDAL</b>   |  |   |
| 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   |
| <b>SILVER MEDAL</b>   |  |   |
| 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                                       |
| <b>SILVER MEDAL</b>   |  |   |
| 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. Norazlianie 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   |
|--|---|---|
| <b>OUTSTANDING INNOVATION AWARD AND GOLD MEDAL</b> |   |   |
| 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 |
| <b>SILVER MEDAL</b>                                |   |   |
| 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                      |
| <b>BRONZE MEDAL</b>                                |   |   |
| 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  |
|---|---|--|
| <b>TURKISH INVENTORS AND INNOVATORS NETWORK AWARD AND GOLD MEDAL</b>              |   |  |
| 1.  | Associate Professor Ts. Dr. Mazlina Abdul Majid | PISAH COVID Patient Tracking System at Home                                    |
| <b>NATIONAL STEM ASSOCIATION AWARD, EURO BUSINESS-HALLER AWARD AND GOLD MEDAL</b> |   |  |
| 2.  | Dr. Diyana Kamarudin                            | Hear Me Assistive Technology for the Deaf and Hearing Impaired During Pandemic |
| <b>MALAYSIAN ASSOCIATION OF CREATIVITY AND INNOVATION AWARD AND GOLD MEDAL</b>    |   |  |
| 3.  | Ts. Dr. Norazaliza Mohd Jamil                   | A GUI Simulation Tool for Pandemic Outbreaks                                   |
| <b>BRONZE MEDAL</b>   |   |  |
| 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**

|          |                      |          |   |
|----------|----------------------|----------|---|
| <b>7</b> | Publication of the   | <b>1</b> | Article Publication/Journal Special Award |
| <b>1</b> | International Grants | <b>1</b> | Commercial Special Award                  |
| <b>6</b> | Journal of Industry  | <b>2</b> | Special Innovation Award                  |
| <b>1</b> | 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 Gimbun                        |
| 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**



|          |                      |          |                          |
|----------|----------------------|----------|--------------------------|
| <b>9</b> | International Grants | <b>1</b> | Commercial Special Award |
| <b>5</b> | Journal Publications | <b>1</b> |                          |
| <b>1</b> | 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

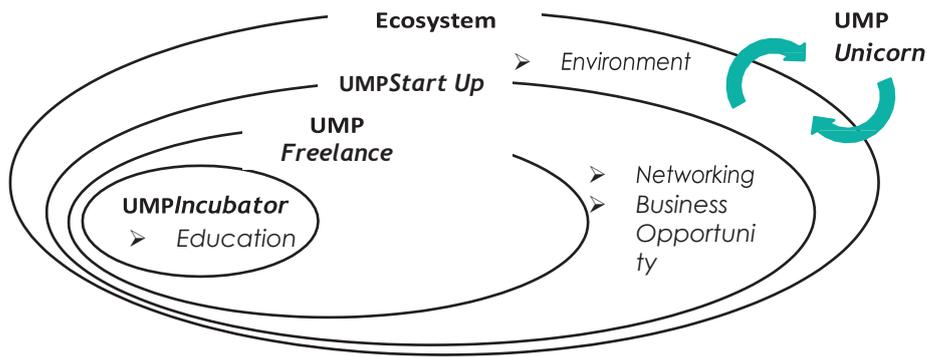


Table 9.23: List of PUPUK Programs Year 2021

| 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 Ethks 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

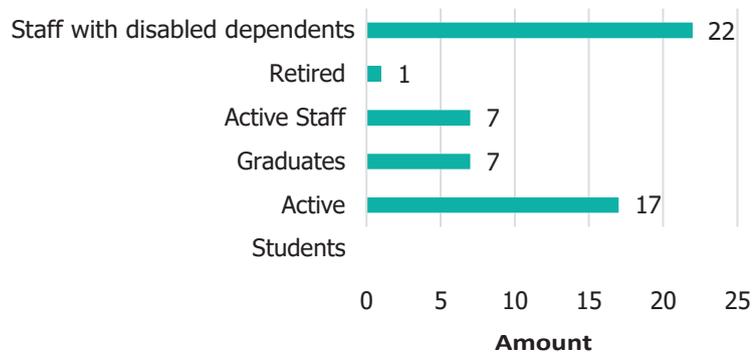


Return to Work (RTW) Goodwill Visit to Muhammad Kamarulzaman Safiee's House

Diagram 10.1: Statistics of OkUMP Citizens in 2021

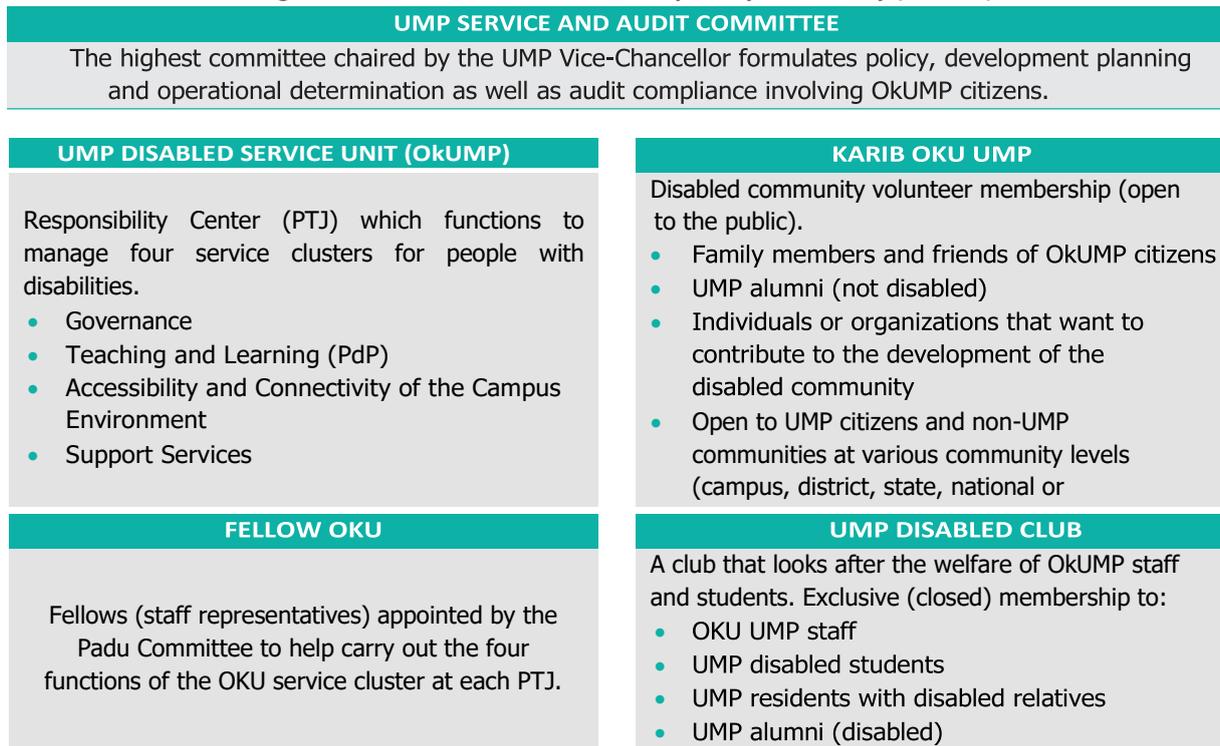
### Definition of disabled

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)**



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

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        |
| <b>OVERALL TOTAL</b> |  | <b>11</b> | <b>48</b>    | <b>379</b> |

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<br>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)<br>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**

- |   |  |
|---|--|
| <p><b>1</b> Publication of OKU Poems entitled <i>Menyantuni OKU</i></p> <p><b>2</b> 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</p> | <p><b>3</b> 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</p> <p><b>4</b> 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</p> |
|---|--|

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.

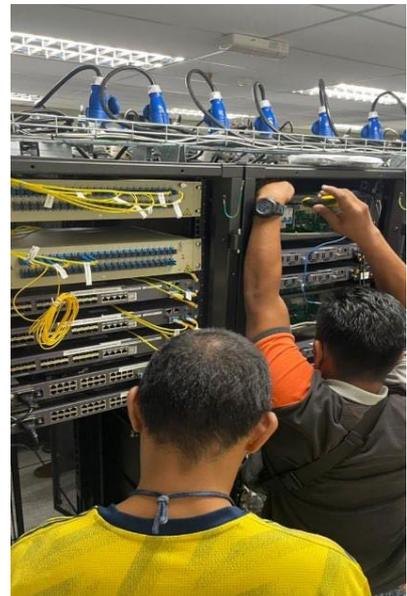


This migration reduces the dependence on conventional communication and prepares UMP for a digital campus environment by the year 2025, as well as optimizing the university's operating expenses.

### 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**

|                       |                        |
|-----------------------|------------------------|
| <b>12,571</b>         | eCollI                 |
| <b>103,809 copies</b> | Physical               |
| <b>56,773 copies</b>  | Digital                |
| <b>26,391</b>         | UMP-IR                 |
| <b>10 databases</b>   | Database Subscriptions |



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



# 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



# CO<sub>2</sub> Emissions Reduction Initiatives

Renewable energy program is one of the CO<sub>2</sub> 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 CO<sub>2</sub> 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<br>250W<br>800W                        | 9,490 kWh                  |
| 10.          | FTKEE                        | Solar System             | Will be installed in 2022 | 0.5kW                                       | 912.5kWh                   |
| <b>TOTAL</b> |                              |                          |                           |   | <b>54,288 kWh</b>          |

## Program related to Sustainability Energy

**Table 17.2: Energy Efficiency Program**

|    | <b>PROGRAM</b>  | <b>DATE</b>      |
|----|---|------------------|
| 1. | Massive Open Online Course (MOOC) on Sustainability Campus.<br>MYSUN: Bringing Future Campus Today              | -                |
| 2. | Energy Security and Chemical Engineering Congress<br>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<br>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

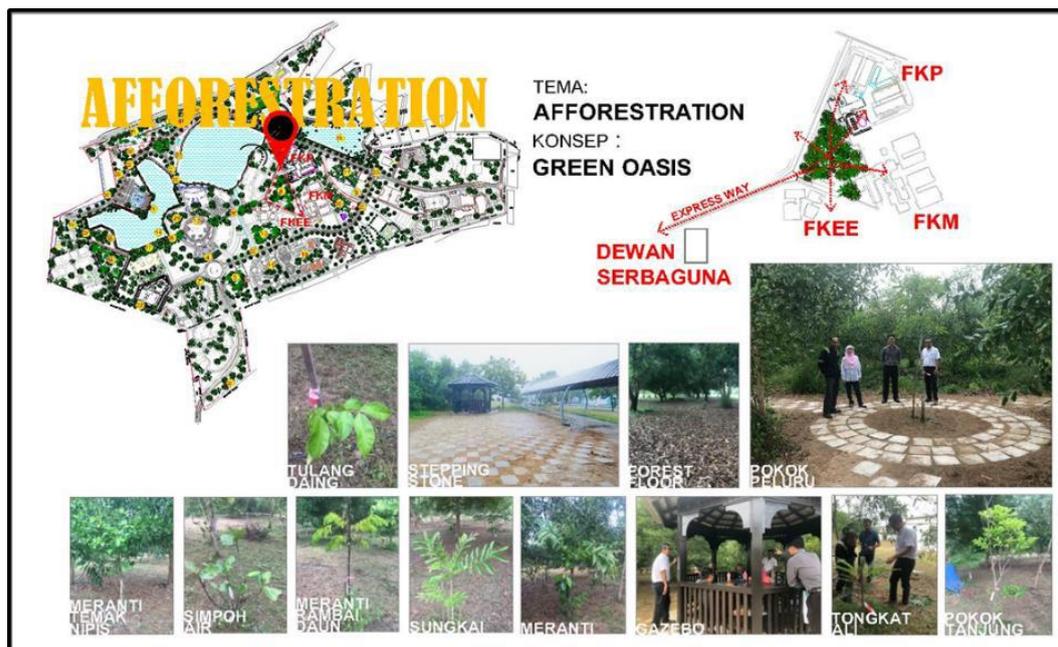


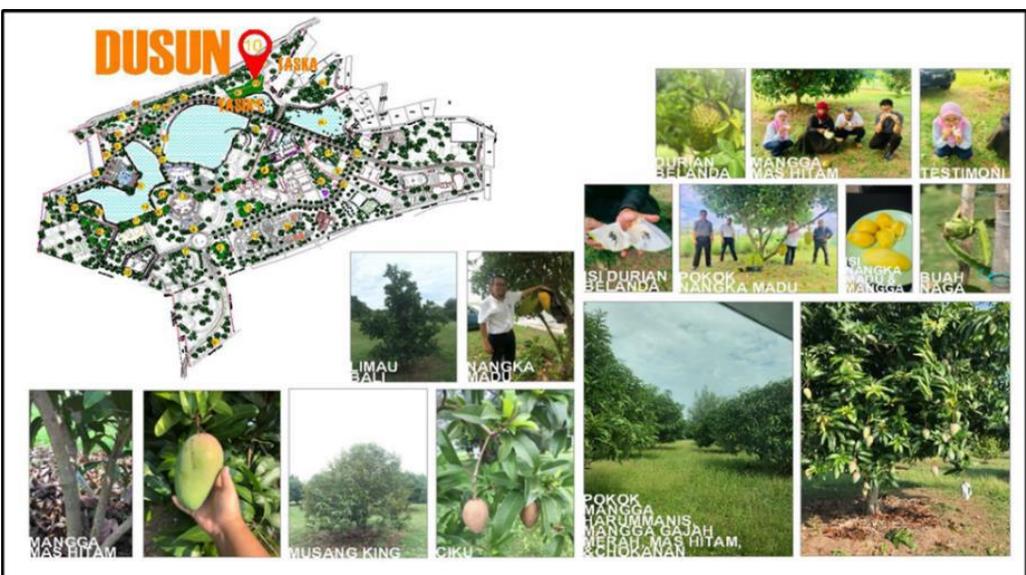
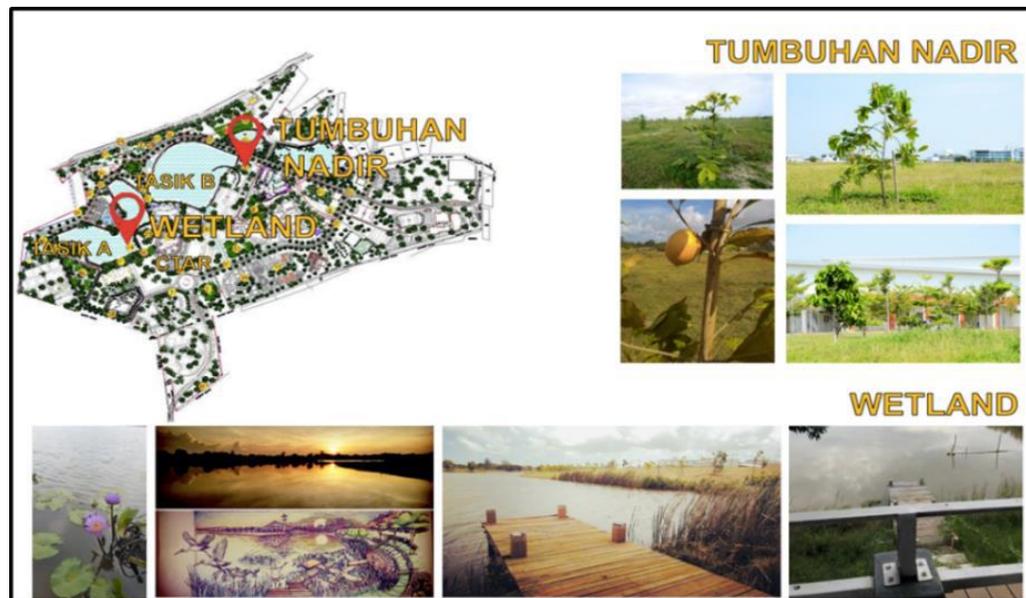
# Afforestation Program

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"> <li>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.</li> <li>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.</li> </ul> | <ul style="list-style-type: none"> <li>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.</li> </ul> | <ul style="list-style-type: none"> <li>Disclosure regarding the responsibilities and roles of public officials (code of conduct &amp; discipline) to Mind Transformation Program (PTM) participants on 24 August 2021 by Legal Officer, Marlina Mamat.</li> </ul> |

## 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 | UMP Holdings Sdn. Bhd. |
| 7.  | Ethics and Integrity at Work with UMP Holdings Sdn. Bhd.                                     | December 7, 2021  |                        |

**17 PARTNERSHIPS FOR THE GOALS**



## 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**

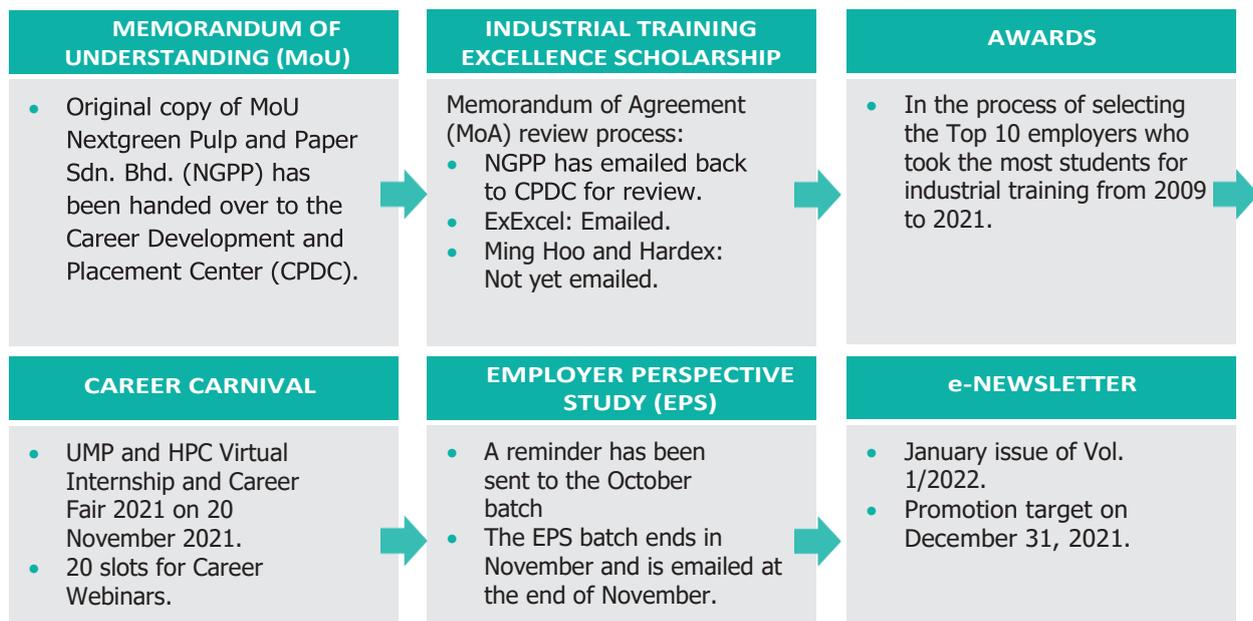


**Table 17.1: List of MoUs, MoAs or LoIs That Have Been Signed in 2021**

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

## Collaboration with the Industry

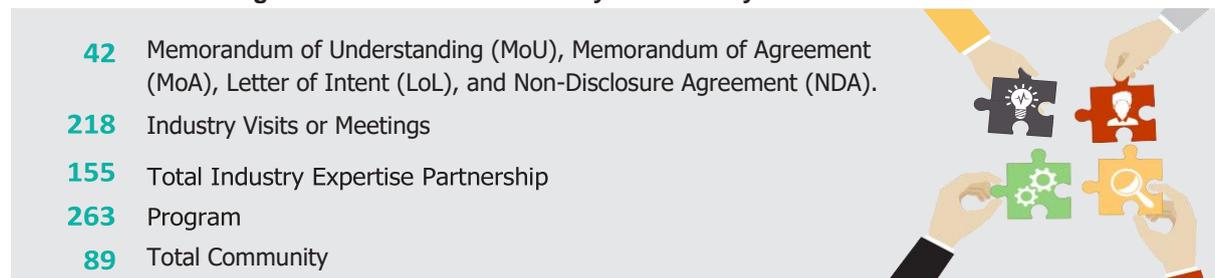
**Diagram 17.2: Collaboration with the Industry for Career Development and Placement as well as Cooperating with Domestic and Overseas Job Seeking Agents**



**Table 17.2: List of Career Development Programs in 2021 Online**

| NO. | PROGR<br>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"> <li>Industrial training placements, 2u2i, 3u1i and WBL.</li> <li>Review and evaluation.</li> <li>Program curriculum structure.</li> <li>Sponsorship.</li> <li>Sharing knowledge and industry expertise.</li> <li>Certification and training.</li> </ul> | <ul style="list-style-type: none"> <li>Funding and sharing of industry and university research grants and expertise.</li> <li>Some Memorandum of Understanding (MoU), Memorandum of Agreement (MoA), Letter of Intent (LoL), and Non-Disclosure Agreement (NDA).</li> </ul> | <ul style="list-style-type: none"> <li>Sharing knowledge and expertise with external communities for the purpose of improving skills and technological benefits.</li> <li>The communities that benefit are schools, government agencies, small and medium industrial operators and the local community</li> </ul> |

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

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

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   |   |
| 11. | ECRL Industrial Skills Training (PLKI-ECRL) at the University Malaysia Pahang (UMP-MRL-CCCC)   | Center for Design and Technology Innovation (PrinT)                     |
| 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<br>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  |

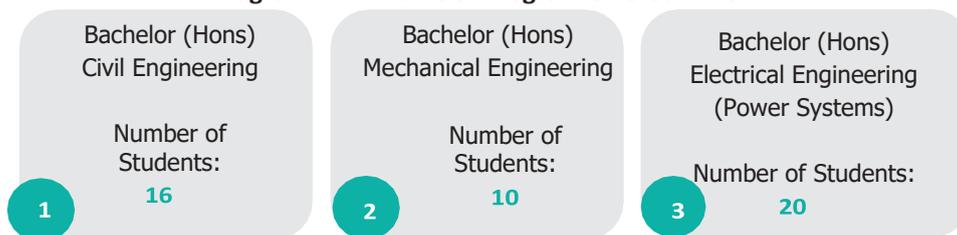
## Dual Degree Program Offer Semester 1 Academic Session 2021/2022 (Rail Engineering)

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<br><br>Muscat College | COAST<br><br>INSTEP<br>INSTITUT TEKNOLOGI PETROLIUM PETRONAS | COAST<br><br>COAST | <br>Education<br>MALAYSIA<br>GLOBAL SERVICES | <br>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          |
| <b>OVERALL TOTAL</b>                | <b>170</b> |

**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-sessional English Course(PEC) | 0          |
| Mobility program (Inbound)        | 0          |
| <b>OVERALL TOTAL</b>              | <b>265</b> |

## UMP Student Mobility

**Table 17.10: UMP Student Mobility List Year 2021**

| NO.  | DATE                 | PROGRAM MOBILITY ACTIVITY  | PARTICIPANTS |
|--|----------------------|--|--------------|
| <b>VIRTUAL SUMMER</b>                        |                      |  |              |
| 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           |
| <b>VIRTUAL INBOUND MOBILITY (NON-CREDIT)</b> |                      |  |              |
| 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**



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         |
| <b>OVERALL TOTAL</b> |                          | <b>32</b> |



## 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  |   |
| 27. | PDPR Challenges and Solutions Webinar Forum Program in Rural Areas: Practical Preparation Tips Quality Teaching and Assessment Materials | 29 June 2021   | FB ICoN ( <a href="https://www.facebook.com/ICONUMP">https://www.facebook.com/ICONUMP</a> ) |
| 28. | UMP Virtual Run and Ride for Palestine   | 12 September to 30 October 2021                        | Online  |

## Source

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## Edited By

Herma Dina Setiabudi

Hazlina Faizal