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**V-MIEX**

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VIRTUAL-MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION

ROAD TO COMMERCIALISATION

**V-MIEX BOOK**



# V - MIIEX BOOK

## 'ROAD TO COMMERCIALISATION'

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# FOREWORD

ASSOC. PROF TS. DR MOHD RASDI ZAINI  
Rector  
Universiti Teknologi MARA (UiTM) Cawangan Melaka



Welcome to Virtual-Melaka International Intellectual Exposition 2022 (V-MIIEEX 2022). It is an honour for me on behalf of UiTM Melaka Branch to thank all of you for joining the programme and we are proud to inform you that this is the 12th year consecutively, UiTM Melaka Branch is organizing this exposition.

V-MIIEEX 2022 is a platform to improve the commercialization collaboration among industries and communities and at the same time, we also give the opportunity to academicians and students to share ideas and increase their potential innovation products with the industries and communities through their projects. This exposition also serves as a platform to cultivate and upload the nation's innovation culture by presenting new ideas and research by young people, especially from academia, universities, college, high schools, and primary school students.

The economy and development of the country faced a challenging phase in 2021 due to the Covid-19 pandemic. We faced changes in business, education, society, and lifestyle. However, the pandemic proved to be a blessing in disguise as it somehow gave people ideas which would be beneficial to improve their lifestyle and solve problems that might occur in the future. Besides, the new digital landscape also inspires more innovation and new ideas that contribute to various activities such as business and industries. As a university that encourages the "Research, Innovation and Commercialization", this exhibition is organized to encourage more commercialization of products that are beneficial to scholars, industries, and communities to tackle such issues to improve our present and future life.

Since 2009, UiTM Melaka Branch has successfully become the organizer for this innovation exposition. We are not only successful in organizing the exposition, but I would proudly say that we have also successfully embarked on commercialized products. With the number of participants for this year's exhibition, we believe that more commercialized products will be produced in line with the theme for this year, "Road to Commercialisation".

This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams as the backbone of this exposition. Their hard work, effort, and time made this exposition possible.

Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition, we hope that this collaboration never ends here.

Thank you.



**DR. NUR HAYATI BINTI ABD RAHMAN**  
Deputy Rector Research & Industrial Linkages  
Universiti Teknologi MARA (UiTM) Cawangan Melaka

It is a great pleasure to welcome all the participants and presenters to the Virtual Melaka International Intellectual Exposition (VMIIEX 22). I am delighted that through this periodic event, we managed to bring together scholars and professionals from various fields to engage through this virtual platform where ideas and breakthrough are discovered and leveraged for commercialization potential.

Since 2009 UiTM Cawangan Melaka has held twelve Invention and Innovation Design competitions and this year we are very honoured to have the second year of VMIIEX organized in digital platform. This has proven that despite the global challenges due to the recent pandemic, it is never an issue for UiTM Melaka to continuously organize this yearly prestigious event and to support the ministry's aspiration in leveraging creativity and innovation in the new norm.

VMIIEX 22 is organized with no sole objectives of accomplishing the University's KPI but instead we are determined to make this programme as the place to help heighten commercialization collaboration in research and innovation with the industry and community through joint exhibitions from various external organizations.

Our aspiration is to also provide exposure and opportunities to academic staff as well as students from public and private universities to engage in direct excellent scholarly activities with the industry and community through activities that can be measured and assessed. As for the Research and Industrial Linkages Office of UiTM Melaka, this exhibition is seen as the platform that can encourage active collaboration and knowledge transfer with industries; objectively to support various activities that will benefit all stakeholders from the various government agencies, local and international universities, industries and communities.

Through the theme of "Road to Commercialization" this year, V-MIIEX 22 is committed to have this event as a boulevard to inspire and cultivate creativity and innovation to the numerous levels of inventors through exposure on latest technologies, astonishing ideas and creative designs with great potential to be commercialized. For this year, we proudly introduce a special category which is the "Endemic Challenge" as the provision to the government of Malaysia's goal of moving towards the endemic.

To ensure that the competing products in this exhibition is not exclusively for the purpose of competition, V-MIIEX 22 is dedicated for the commercialization of highly potential innovation products, which is attained through its active collaboration with tailored needs industries. The commercialization effort was not for income generation purpose only but it aimed to spearhead the development of quality products in line with industrial needs and community benefit.

Therefore, it is a great honour for me on behalf of the Research and Industrial Linkages Office as well as the organizing committee to have all participants in this competition and I would like to express my highest gratitude especially to the Rector of UiTM Melaka and all strategic partners and sponsors for supporting the event.

To finish, I sincerely wish VMIIEX 22 a remarkable success. I believe that this will not be the only collaboration between UiTM Melaka and the respective partners and linkages, but a beginning of a long and fruitful cooperation in future.

Thank you very much.

*road to commercialisation...*



**WAN HASMAT WAN HASAN**  
Project Director V-MIIEEX 2022  
Universiti Teknologi MARA (UiTM) Cawangan Melaka



Assalamualaikum and Warmest Greetings.

It gives me an enormous pleasure, on behalf of the organizing committee to welcome all participants and presenters to the Virtual -Melaka International Intellectual Exposition 2022 (VMIIEX '22) with the theme "Road to Commercialisation". We are honoured and glad to welcome all participants to this biennial event.

This is the second time that we have organized this biennial event virtually. V-MIIEEX 22 is an innovation competition, in which, innovation products, ideas and systems related to various science and technological fields are exhibited as a solution for the presented problems.

V-MIIEEX22 expectantly will be a platform that gathers experts from academies, scientists, and researchers, locally and internationally, to contribute towards the growth of scientific and technological knowledge in each participant's specialisation and expertise.

The competition also serves as a platform to give fresh exposure to the various level of inventors, as well as to encourage the culture of innovation design focused on latest technologies and related to new norms technologies and inventions due to COVID-19.

V-MIIEEX 22 is also hoped to be an avenue for gathering and disseminating the latest knowledge on ideas and acquisition of innovation among the participants. It is hoped that the competition will be able to open the mind of the participants towards latest technologies and design. It is also in line with the government's aspiration to encourage innovation activities in Malaysia.

As a final note, I would like to congratulate my fellow committee members for their tremendous effort, which have been critical to the event's success. In addition, I would like to thank our co-organizer, event sponsors and supporters. Optimistically, we wish that all new knowledge that is discovered, invented, or innovated will drive towards our future sustainability.

Thank you.

# ABOUT V-MIIEEX

The world after COVID-19 is unlikely to return to the world that was. Despite the challenging pace during the pandemic, the strong rebound is expecting in this exciting year 2022. Malaysia is welcoming the great prospects ahead with positive impact on the country's economy and development. Hence, the hope for greater opportunities motivates for more creative thinkers to come up with innovative ideas that can be put forward to be harnessed to overcome similar problems in the future. V-MIIEEx 2022 is one of these platforms which contribute relevant ideas that could help communities of all walks of life cope with this pandemic.

UiTM has identified research, innovation, and commercialization to be among the core components and strategic effort towards becoming a well-known and prominent university. Aside from realizing this goal, with these components and efforts, fostering the development of knowledge, generating financial stability of the university, and producing knowledgeable academicians are also potentially achievable.

By having invention and innovation competition yearly, UiTM Cawangan Melaka is confident that it could further enhance creative and innovative abilities among staff and students. In support of the government notion which upholds the importance of innovation, UiTM Cawangan Melaka has taken the initiative of organising the Virtual Melaka International Intellectual Exposition (V-MIIEEx).

In instigating and nurturing the continuous culture of inventing and innovating, this event is an ideal platform for lecturers, administrative staff, students, and the public to showcase and commercialize their products or prototypes as well as novel ideas. The first IID which was held nationally in UiTM Cawangan Melaka in 2009, has successfully gathered and displayed more than 37 inventions and innovations. Accordingly, to continue this strong passion towards inventing and innovating, the IID competition should be continued and celebrated.

With that, the Division of Research and Industrial Linkages will be organising its 12th IID competition, the Virtual - Melaka International Intellectual Exposition (V-MIIEEx 2022) with the theme, 'Road To Commercialisation'. V-MIIEEx 2022 hopes to welcome 200 competing products to be showcased and commercialized, at the same time, attract attention of related and matching industry.

## Objectives

1. Encourage and instill passion towards inventing and innovating among UiTM Cawangan Melaka staff, students and academicians of local and international higher education institutions;
2. Highlight distinguished talents of skillful inventors and exhibit intellectual products, inventions and innovations among local and private tertiary institutions, government and private agencies, including international participants;
3. Become an effective Business Matching platform for participating research products, matching industries and partnering government agencies;
4. Recognise, inspire and promote invention and innovation products to be patented and commercialized;
5. Increase passion towards inventing and innovating through research and boost interests of government and non-government agencies to obtain consultancy services from a line up experts of higher education institutions and UiTM Cawangan Melaka.

## **Multi-functional Fan**

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### **Abstract**

According to the Malaysian Meteorological Department, Malaysia is experiencing the south-west monsoon, which results in a hot and dry climate until mid-September this year. This situation makes every age group in Malaysia facing an inconvenience situation in their daily life activities. There are several inconvenience situation may arise from the hot and dry climate, such as (1) people will feel hot and uncomfortable due to high temperature during the current weather especially when they are going for work, holiday or do any outdoor activities. (2) Excessive sweating that can cause body dehydrated and reducing of blood flow. Therefore, E.D Company had decided to design a portable fan with 21 hours battery life (as a backup power bank), USB and also flashlight so that enable people to bring it anytime and everywhere. The name of the product is “Multifunctional fan”. It is different from the ordinary fan in the market in terms of (1) smaller size, which is portable and easy to carry anywhere. Also can be put in a small place like pocket or handbag when it is not being used. (2) Multifunctional fan has four (4) functions in 1 (one) product such as: (i) portable fan (ii) power bank (5000mAh) which can be used to charge mobile phones (iii) USB port which used to charge the multifunctional fan without using plug (iv) flashlight, which is useful in dark areas or in case of any emergency happens such as blackout. Multifunctional fan is also suitable for all types people since it is easy and convenient to use. E.D Company expect that this new innovative product will be well received by people and believe that it will be successful to position this product in a wide market in future.

Keywords: Multifunctional fan, Portable fan, Power bank, USB port, Flashlight

### **1. INTRODUCTION**

Malaysia nowadays is experiencing a hot climates during this south-west monsoon season. This situation makes people feel uncomfortable especially when they have outdoor activities because of the hot environment due to high temperature. Upon the recent climate, E.D company has decided to produce an innovative product named as “Multifunctional fans” which it have 4 in 1 functions: portable fans, powerbank, USB and flashlight and it is suitable for all people to bring it everywhere and at anytime. The portable fan with a small size makes it easy for everyone to carry it anywhere they want even though they go out for outdoor activities. They also can charge their mobile phone, use the flashlight due to emergency cases such as blackout or use the fans itself when going out for activities. It is also can be used for 21 hours through provided powerbank.

## **2. OBJECTIVE**

“Multifunctional fan” is being designed for the customer who is faced with some climate problems when they go to work, holiday or do any outdoor activities during the hot and dry climate. With the existence of the product, it can make them feel more convenient, comfortable and worth it during the hot season and can bring the portable fan everywhere and every time. This multifunctional fan also comes with 4 unique features in 1 product such as power bank, flash light, 21 hour battery life and also with portable size. All of the features are very important in case any emergency occurs and it makes it easier for the customer to use it.

## **3. NOVELTY & INVENTIVENESS**

Multifunctional fans are different from the others in terms of having portable fan, power bank, USB and flashlight. The fan is easy to carry anywhere and anytime because it is portable and also can be putting in a small space like pocket and handbag. Power bank and USB can be use to charge mobile phone especially for those who are always being outside of their home. While flashlight is useful for emergencies situation such as in the dark during blackouts or at night . This product also can helps people to prevent themselves from having excessive heating that can make them sweating excessively which finally make the dehydrated and feel tired quickly. Therefore, the multifunctional fan is very useful especially to those people who are always have outdoor activities and exposure to hot environment.

## **4. PRACTICALITY & USEFULLNESS**

Multifunctional fan is easy to use and convenient, making it suitable for customers from all types of people. By using the portable multifunctional fan, it makes it easy to carry it everywhere and keep it in a smaller space like pocket or handbag. The design of the multifunctional fans makes it easy to be used and has economical value when it offer four (4) different functions with one (1) product. It is also user friendly since it is easy to operate, practical and safe to be use. Furthermore, due to the current weather which is being quite hot nowadays, this multifunctional fan is very necessary for people to use especially when they are being outside from their home. The power bank and USB which attach to the fan also are very practical to charge the mobile phone when the battery is running low at anytime and anywhere. Moreover, the flashlight can be useful especially in dark situation if anything suddenly happens such as blackout or at night. On other hand, the multifunctional fan can be used for about 21 hours since it has a 21 hour battery life. Plus, this multifunctional fan only takes 3 hours to fully charge and if the battery is drained before using it again.

## **5. CONCLUSION**

The existence of "multifunctional fan" is needed by people especially during the hot climate nowadays and also for those who are always have and activities outside from home. With specialities that it have as a 4 in 1 product (portable fan, power bank, USB and flashlight) hopefully it can help much towards those who need it as it is an economically and user friendly product. E.D company believe and expect that this product will have high demand from the target customer and can be market widely in future.



## REFERENCES

- Michael W. Richardson. (2020). How Does the Body Regulate Temperature? BrainFacts.org. <https://www.brainfacts.org/brain-anatomy-and-function/body-systems/2020/how-does-the-body-regulate-temperature-100720>.
- Aliza Shah, Gerard Gimino&Imran Hilmy. (2022). Double whammy as extreme hot weather hits. The star. <https://www.thestar.com.my/news/nation/2022/05/12/double-whammy-as-extreme-hot-weather-hits>.
- Jeremy Laukkonen. (2022). What Is a Rechargeable Fan? EasyTechJunkie. <https://www.easytechjunkie.com/what-is-a-rechargeable-fan.htm>.
- Jackson. (2020). What is a Portable Fan – Benefits of Having a Portable Fan. Home Vaz. <https://homevaz.com/what-is-a-portable-fan/>.
- Tom & Tori Traveller. (2022). The 7 Best Portable Fans in 2022. Travellers Worldwide. <https://travellersworldwide.com/best-portable-fans/>.