

" Promoting Innovative Entrepreneurship for a Sustainable Economy: Pioneering Tomorrow's Business Models"







# 5th September 2024

In the joint collaboration involving:

Faculty of Business and Management, Universiti Teknologi MARA Kedah Branch,

Faculty of Economics and Business, Universitas Islam Bandung, and

Malaysian Academy of SME & Entrepreneurship Development (MASMED)





## Assalammu'alaikum Warahmatullahi Wabarakatuh.. Salam UiTM Dihatiku..

It is with immense pride and enthusiasm that I welcome you to the 3rd International Competition of Entrepreneurship Business Innovation (iCEBIV) 2024, hosted by the Faculty of Business and Management, UiTM Kedah Branch. This prestigious event is organized in collaboration with the Malaysian Academy of SME & Entrepreneurship Development (MASMED) and the Faculty of Economic and Business, Universitas Islam Bandung (UNISBA), Indonesia. This competition exemplifies our deep commitment to advancing creativity, entrepreneurship, and a spirit of innovation among our students and the wider community.

In today's rapidly evolving world, the ability to innovate has become a fundamental necessity rather than a mere option. Our institution understands the critical importance of innovative thinking in propelling economic growth, addressing urgent societal challenges, and paving the way for a sustainable future. This competition is designed to encourage participants to think critically, challenge conventional ideas, and develop groundbreaking solutions that can leave a meaningful impact in various areas.

This competition is not merely a challenge; it is a valuable platform for learning, collaborating and exchanging ideas. It brings together talented individuals from diverse disciplines, fostering an innovative culture that extends beyond academic boundaries. We encourage our students to apply their knowledge, channel their creativity, and turn their ideas into actionable business solutions.

As the Rector of UITM Kedah Branch, I am deeply committed to supporting initiatives that help students reach their full potential. This competition provides them with a unique opportunity to showcase their abilities, gain critical experience, and establish networking that will be instrumental in their future careers. I am confident that the skills and insights gained from this experience will empower them to excel in an increasingly competitive and dynamic global landscape.

I would like to extend my heartfelt thanks to everyone who has contributed to the success of this event, including our dedicated faculty and staff, esteemed judges, sponsors, and partners. Your unwavering support and commitment have been integral to the successful realization of this initiative.

To all participants, I urge you to approach this competition with passion, creativity, and determination. This is your moment to shine, to challenge the limits of what is possible, and to create a lasting impact. Regardless of the outcome, your participation itself is a significant achievement, demonstrating your commitment to innovation and excellence.

Let us come together to make this competition a celebration of ideas, creativity, and the entrepreneurial spirit that embodies UITM and UNISBA. I wish you all the best in your endeavours.

With warmest regards,

**Profesor Dr Roshima Haji Said** Rector Universiti Teknologi MARA (UiTM) Kedah Branch

#### Bismillaahirrahmaanirrahiim

#### Assalamu'alaikum Warahmatullahi Wabarakatuh

Every participant in the third International Competition of Entrepreneurship Business Innovation (ICEBIV) 2024 deserve my heartfelt congratulations and warmest regards. I extend these to the organizing committee and every one of them. This initiative is a demonstration of the productive collaboration that exists between universities in the ASEAN region. Maintaining a positive relationship between the two institutions, UNISBA and UiTM, will result in the production of academic programs and community service works that are both productive and innovative. In future collaboration, the implementation of this program is something that Universitas Islam Bandung (UNISBA) is strongly advocating for.

Universitas Islam Bandung (UNISBA) has reaffirmed its commitment to the internationalization program and has stated that it will continue offering assistance for various initiatives. It has been beneficial for the university to gain experience by participating in this program. The big ideas instilled in iCEBIV 2024 are thriving.



They will be ensured by the presence of entrepreneurs who have a global perspective and positively impact the surrounding community. Being an Islamic university, UNISBA, is obligated to establish a halal business ecosystem on a global scale by addressing contemporary issues such as the idea of innovation for sustainable business. This obligation is a requirement of the university. In light of this, the electronic proceedings that have been presented will prove to be advantageous for the development of scientific research and technological innovation. For their insightful and enthusiastic efforts in the successful implementation of the Memorandum of Agreement (MoA) between the two institutions, we would like to express our deepest gratitude to the Faculty of Economics and Business at UNISBA, the Malaysian Academy of Small and Medium Enterprise and Entrepreneurship Development (MASMED), and the Faculty of Business and Management at Universiti Teknologi Mara (UiTM) Kedah Branch. To be more specific, this partnership will result in many innovations, particularly in entrepreneurship, which is becoming an increasingly desirable occupation for the younger generation. When it comes to better understanding the global needs and challenges of today, international cooperation is evolving into an increasingly necessary requirement. Allah blesses the constructive actions that are being taken to generate benefits for society and universities. May Allah continue to bless these actions and our international collaboration for giving beneficial for our society and for the future.

Wassalamu'alaikum Warahmatullahi Wabarakatuh.

Warmest regard,

**Prof. Dr. H. Edi Setiadi, S.H., M.H.** Rector Universitas Islam Bandung





## Assalamu'alaikum Warahmatullahi Wabarakatuh

Alhamdulillah, under the grace and mercy of Allah Subhanahu Wata'ala, for this extraordinary occasion of the 3rd International Competition of Entrepreneurship Business Innovation (ICEBIV) 2024. This event is a testament to the strong bond between two great institutions which are Universiti Teknologi MARA (UITM) and Universitas Islam Bandung (UNISBA). I am proud that our Faculty of Business and Management and MASMED have played a crucial role in bringing this collaboration to life.

I would like to express my heartfelt appreciation to everyone involved in making this event a reality. The 3rd ICEBIV 2024 is more than just a competition. It's a unique platform where we come together to celebrate creativity, unleash potential, and explore business ideas that have the power to impact our communities positively. It's inspiring to see so many bright minds gathered here today and ready to make a difference.

This year's competition offers three key categories namely Business Model Canvas Battle, Business Idea Battle, and Business Plan Battle. Each of these categories will serve as an invaluable platform for participants to validate their business ideas before turning them into successful ventures in the future.

These battles are not just about competition but about providing you with the feedback, guidance, and confidence to take your innovative ideas to the next level.

The theme of this year's competition, "Promoting Innovative Entrepreneurship for a Sustainable Economy: Pioneering Tomorrow's Business Model," resonates deeply with our mission. We live in a time where innovation and entrepreneurship are key to building a resilient and sustainable future. This competition is our way of nurturing that entrepreneurial spirit, encouraging you to think creatively and develop solutions that are not just innovative but also relevant to the challenges we face today.

To all the participants, I wish you a truly rewarding experience. Remember, every great idea starts with the courage to think differently and the willingness to take risks. Don't be afraid to dream big and this competition is your opportunity to do that. I hope you leave here with not just memories but valuable lessons that will guide you in your future endeavors.

As we look forward to the future, I sincerely hope that this won't be our last gathering. I'm already excited about the possibility of organizing the 4th ICEBIV next year. Let's keep this momentum going and continue to strengthen our collaboration in promoting entrepreneurship on a global scale.

Wassalamu'alaikum Warahmatullahi Wabarakatuh.

With Warmest Regard

**Dr. Junaidah Ismail** Deputy Rector of Academic Affairs UiTM Kedah Branch

## Assalamu'alaikum Warahmatullahi Wabarakatuh,

Dear respected Rector of Universitas Islam Bandung (UNISBA), esteemed Rector of Universiti Teknologi MARA (UiTM), distinguished lecturers, talented competition participants, and ladies and gentlemen.

First, let us thank Allah Subhanahu Wata'ala, because by His grace and mercy, we can all gather in this prestigious event, the 3rd International Competition of Entrepreneurship Business Innovation (ICEBIV) 2024. This event is one of the collaborations between two educational institutions strongly committed to building an innovative and globally competitive young generation, the Faculty of Economics and Business of Universitas Islam Bandung and Universiti Teknologi Mara (UiTM).

On this occasion, I express my highest appreciation to all the committees and parties involved in organizing this event. The 3rd ICEBIV 2024 is not just a competition but also an extraordinary platform to develop potential, explore creativity, and explore business ideas that can positively impact society, especially students and professionals.



We are all aware that innovation and entrepreneurship are crucial to building a resilient and sustainable economy in this era of globalization. Therefore, this competition has a crucial role in fostering the spirit of entrepreneurship among students and professionals while encouraging the creation of business solutions that are creative, innovative, and relevant to the needs of the times.

To the participants, I wish you enjoy and happiness by participating in this competition. Do not be afraid to dream big and take risks when developing your ideas. Remember that every great innovation always starts with the courage to think outside the box and take the first step. Hopefully, through the 3rd ICEBIV 2024 competition, all of you can gain valuable experience that will help you in your future career journey.

Finally, I hope the 3rd ICEBIV 2024 can run successfully and benefit all participants and institutions involved. Let us make this event a momentum to strengthen the cooperation between FEB Unisba and UiTM and advance the world of entrepreneurship internationally.

Allow me to provide a "pantun" to encourage the organizers and participants of the 3rd ICEBIV 2024, which characterizes literature and culture in Indonesia.

Jalan jalan ke Semanggi Jangan lupa membeli batik bermotif Ayo mahasiswa ramaikan ICEBIV bergengsi Dikancah internasional dengan penuh ide inovatif

Wassalamu'alaikum Warahmatullahi Wabarakatuh

Sincerely,

#### Prof. Dr. Nunung Nurhayati, SE., M.Si., Ak., CA.

Dean Faculty of Economic and Business Bandung Islamic University, Indonesia

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## GROWING FUTURES: INTEGRATING HYDROPONIC AND AGROPRENEURSHIP AT UITM SABAH

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#### Abstract

This proposal outlines establishing the hydroponics project business for the Diploma in Agropreneurship, Faculty of Plantation and Agrotechnology (FPA), Universiti Teknologi MARA Sabah Branch (UiTMCSH). This project focuses on creating agropreneur's fundraising through hydroponic salad cultivation. The fundraising project offers various premium quality salads and promotes agriculture education sustainable practices in salad cultivation. The proposal highlights the unique selling proposition, including providing first-hand experience in salad harvesting, sustainable hydroponic systems, educational opportunities, and subscription services. The target customers of this project include students and staff of UiTMCSH, visitors, cafeterias, and the Hospitality and Tourism Training Center (HTTC), UiTMCSH. In addition, this project teaches students entrepreneurship skills while promoting sustainable agriculture, and the profits generated are used to fund various fundraising projects that continue in semester two forward throughout their study. All collected funding benefits the students for their international academic visit in their fourth semester.

Keywords: hydroponic, agropreneurship, entrepreneurship, fundraising, sustainable agriculture

#### **1. INTRODUCTION**

In today's world, sustainable agriculture plays a crucial role in addressing global food security challenges. It is important to integrate innovative farming techniques and entrepreneurial education. The "Growing Futures" initiative at Universiti Teknologi MARA Sabah Branch (UiTMCSH) combines advanced agricultural methods of hydroponics with agropreneurship training to grow crops and groom future leaders in the agricultural business sector. This project improves the efficiency and sustainability of crop production and equips students with the entrepreneurial skills needed to navigate and succeed in the evolving agribusiness landscape. Diploma in Agropreneurship students not only gain practical experience but also generate profits, which they reinvest to expand their businesses. Furthermore, these profits help fund their international academic visits in their final year, enhancing their educational experience and global perspective.

#### 2. BACKGROUND AND MARKET OVERVIEW

Hydroponic farming has gained significant attention in recent years as a viable solution to food security challenges, particularly in areas with limited arable land (Monisha et al., 2023). This innovative technique is particularly beneficial in offering the potential to produce higher yields in smaller spaces compared to traditional farming methods (Goutham et al., 2024).



Moreover, hydroponics is also the main focus in generating economic income through education and practical guidance in urban and rural communities involving housewives, schools, and universities (Orlin et al., 2024; Wulandari et al., 2022; Goutham et al., 2024). By integrating hydroponic farming into these community groups, it is possible to promote sustainable agriculture, enhance food security, provide educational opportunities and generate income.

#### 2.1 Location

The property is located at the Farm Unit, UiTMCSH. The size of the hydroponic project is 18' x 30', which was initially used for teaching and learning purposes. Since the Diploma in Agropreneurship has been offered at the UiTMCSH and is the only program of its kind in Malaysia, this hydroponic project has become significant in promoting and developing innovative and sustainable businesses in smart farming at the UiTMCSH. Hence, it benefits the students, university, and local community.

#### 2.2 Existing brands

There are several existing companies involved in hydroponic farming in Kota Kinabalu, Sabah.

- a. **Green Agro Sanctuary Sdn Bhd**: It is a Malaysian company specialising in NFT hydroponic farming and plant factory operations in Sabah. It promotes sustainable agriculture, particularly cultivating green coral lettuce.
- b. **Swasana Hijau Hydroponic Farm**: It is located in Sabah, Malaysia, and specialises in sustainable hydroponic cultivation of high-quality vegetables.
- c. **Harvest Field Eco Farm**: It is an eco-friendly farm located in Kota Kinabalu, Sabah, emphasising organic practices The farm promotes sustainability and educates visitors through activities like school learning trips.
- d. **A Leaf**: This company specialising in indoor farming and hydroponics is based in Kota Kinabalu, Sabah. They operate aquaponics and vertical farms, focusing on modern agricultural techniques.

#### 2.3 Hydroponic setup for salad cultivation, harvesting and selling

The hydroponic system is set up at the Farm Unit of UiTMCSH, occupying a space of 18' x 30'. This setup is designed to support two planting cycles per semester, providing students with multiple opportunities to learn and practice hydroponic farming techniques. Different varieties of salads are cultivated in the hydroponic system to offer a diverse range of products. The controlled conditions within the system allow for consistent quality and yield, demonstrating the effectiveness of hydroponic farming techniques. Students learn to manage the entire cultivation process, gaining valuable insights into plant care and management.



Figure 1. Workflow of hydroponic salad.



Figure 2. Hydroponic lettuce salad.

## 3. KEY FEATURES OF THE PROJECT

This project is founded on the principles of sustainability and innovation, integrating hydroponic and agropreneurship students toward a future of growth involving the university and community. The key features are as follows:

- 3.1 Sustainable Sourcing: Ensuring that all materials and inputs for the hydroponic system are sustainably sourced to minimise environmental impact. Through collaboration with industry, we use premium seeds as a source of our planting materials that prioritise sustainable and smart farming, soilless farming, nutritious vegetables and water conservation.
- 3.2 Research and Innovation: The FPA UiTM Sabah Branch will conduct research and experiments to develop and explore unique processing methods and optimise cultivation techniques, focusing on enhancing vegetable quality and sustainability. This



includes utilising environmentally friendly and biodegradable packaging materials to reduce the environmental impact of our brand and encourage responsible consumer behaviour.

- 3.3 Community Empowerment: Involving the local community in the project to promote sustainable agriculture practices and provide education on hydroponics. This project provides them with opportunities, technical support, and access to educational resources, thus fostering social and economic empowerment.
- 3.4 Student Involvement: Engage students in all aspects of the project, from cultivation to marketing, in order to enhance their learning experience and entrepreneurship skills. This involves students from various disciplines, such as accountancy, marketing, plantation, agropreneur, agronomist, or any students who are interested in learning. Students can contribute to research, marketing strategies, and social outreach programs.
- 3.5 Profit Reinvestment: Profits generated from hydroponic projects are reinvested to expand student businesses and to support fundraising efforts for financing international academic visits.
- 3.6 Graduate Empowerment: To produce graduates with a Diploma in Agropreneurship who are ready to become agropreneurs, driving sustainable farming businesses and contributing to the agricultural sector's growth and innovation.
- 3.7 Alumni Network Engagement: Engage alumni of the Diploma in Agropreneurship in mentoring current students, providing insights, and sharing experiences from their careers. This network can also be a source of potential investors or collaborators for future projects.

#### 4. PRODUCT RANGE

Our hydroponic salad offers a diverse range of high-quality products, including:

- 4.1. Planters Greenscape Bowl: The main product of our project is a fresh salad product produced by sustainable means that is high in nutrients and free from soil-borne contaminants.
- 4.2. Planters Grab & Go Greens: A pre-washed and pre-packaged salad that is mixed with other vegetables and proteins and comes with a variety of salad dressings that are convenient to consumers in meal prep, particularly for busy students and staff.
- 4.3. Planters' Green Elixir: Blended or cold-pressed beverages made from salad, combined with other fruits or vegetables and possibly added superfoods such as chia seeds, catering to health-conscious consumers.
- 4.4. Planters Garden Wraps: Ready-to-eat sandwiches or wraps filled with fresh salad, other vegetables and protein sources offer convenient and a healthy meal option that promotes the consumption of fresh and nutrient-dense greens.





- 4.5. Planters Crisp Leaf Bites: Dehydrated or baked chips made from leafy salad and can be appealed with various seasonings that offer nutritious snack options to consumers.
- 4.6. Planters Preserved Green: A dehydrated salad that can be rehydrated and used in meal preparation offers a longer shelf-life than fresh salads and reduces food loss.

## 5. MARKETING AND PROMOTION

Marketing and promotion activities for this project encompass:

5.1 Highlight the Agricultural Connection:

- Emphasise the farm-to-table concept: how to set up hydroponic, cultivating and harvesting of various salads, quality assurance, and sustainability.
- Use signage, various hydroponic systems, and eco-packaging to educate customers about hydroponic systems and offer premium crispy salad.

5.2 Comfy and Amicable Scenery:

- Our hydroponic farm design has a natural feel that reflects its agricultural connection with a nature and greenery view to create a welcoming and comfy atmosphere.
- We will consider displaying photographs or videos of the hydroponic farm and farmers to strengthen the connection to the source further.

5.3 Education Tourism Project (ETR):

• The study tour to MyETR Park includes a hydroponic visit harvesting salad as the main package in the MyETR park tour fee.

5.4 Educational Outreach:

- Organise workshops and seminars to educate students and the community about hydroponics and agropreneurship. Use these as platforms for hands-on training and networking.
- Offer virtual course learning opportunities for a broader audience.
- Offer first-hand experience in harvesting the salad.

5.5 Partnership and Collaboration:

- Collaborate and engage with local farming communities. This partnership can strengthen our credibility and support the local economy.
- Participate in community events and farmer's markets to elevate our visibility and connect with potential customers.
- Collaborate with hydroponic technology companies and successful agropreneurs to provide guest lectures, workshops, and mentorship.
- Work with governmental bodies and non-governmental organisations focused on agriculture and sustainable development.

5.6 Campus and Community Engagement

• Campus Events: Host *Hari Terbuka Ladang* and Agriculture exhibitions at the university to showcase hydroponic systems and agropreneur projects.



- Community Outreach: Engage with the local community through public demonstrations, the *Jom Masuk U*, *Misi Akademik*, and *Selangkah ke UiTM* programmes to foster interest and support.
- 5.7 Digital Marketing
- Social Media Campaigns: Create engaging content, such as videos and infographics, that explain hydroponics and showcase success stories from similar programs. (Facebook, Instagram and TikTok)
- Online ordering and delivery: set up an online ordering system for customers who want to save time. Offer discounts or free delivery for online orders to encourage customer participation.
- SEO and SEM: Use search engine optimisation and marketing to ensure interested parties easily find the program.
- Website and e-Commerce: Create a user-friendly website with detailed information about hydroponic salad, including its benefits, growing process, and available varieties. Include an online store for direct purchases.

#### 6. SWOT ANALYSIS

SWOT Analysis for integrating hydroponic and agropreneurship at UiTMCSH:

6.1 Strengths:

- **Health-conscious lifestyle**: Salad is a popular vegetable among the university community, producing an organic and fresh crispy salad taste.
- **Captured spectator:** The targeted audience in the university provides a built-in customer base of students, faculty, staff, HTTC, and café, ensuring a consistent flow of potential customers.
- **Convenient place:** The hydroponic farm's near to the classroom, students' centre, and administrative office areas make it accessible to the university community.
- **Resource Efficiency**: Hydroponics requires less water and space than traditional farming, making it a sustainable choice.
- Enhanced Agricultural Knowledge: FPA UiTMCSH may establish itself as a pioneer in innovative agricultural techniques and technology by implementing this program.
- **Entrepreneurial Skills Development**: Students enrolling in agropreneurship programs can develop their creative thinking and practical business skills.
- **Faster Growth and Year-round Production**: Plants often grow faster in hydroponics because they receive optimal nutrients directly from their roots. It can be set up indoors or in greenhouses, allowing for year-round production regardless of external weather conditions

6.2 Weaknesses:

- **Initial Costs**: Hydroponic systems and related technologies might have high startup costs, which can be a deterrent.
- **Maintenance Complexity**: Hydroponic systems need continuous technical assistance and maintenance, which could burden available resources.
- **Energy Consumption**: Hydroponic systems can be energy-intensive, particularly those using artificial lighting and climate control.



6.3 Opportunities:

- **Collaboration and Partnership:** Partnering with local farmers and other universities for events and promotional activity as it can enhance visibility. It can also strengthen the networking within the scope.
- **Market Expansion:** Opportunity to tap into niche markets by offering a wide range of salad choices and various salad delicacies.
- **Organic Salad Supplier:** Offering premium quality salad of HTTC, café, and university events contributes to additional revenue stream.
- **Research Grant and Funding Program:** Collaborate with the Department of Industrial Development and Research (DIDR), MARDI, SME Corp Malaysia, to get a research grant or agropreneurship fund.
- Entrepreneurial Ventures: Educators and students can launch their hydroponic farms or agribusinesses to encourage local entrepreneurship.

6.4 Threats:

- **Economic Challenges**: Economic downturns or financial constraints could affect choice spending on salad.
- **Price Fluctuation:** Volatility in salad prices due to weather conditions or supply chain issues can affect profitability.
- **Regulatory Issues**: Changes in regulations or policies related to agricultural practices and university regulation could affect operations and funding.
- **Rivalry**: There is high rivalry from other salad producers, fast-casual restaurants, and grocery stores offering pre-made salads.

## 7. FINANCIAL ANALYSIS

7.1 Payback period

Initial investment: RM5,000 (including hydroponic setup, equipment and initial inventory) Operating Costs (per year) Rent and Utilities: RM500/Cycle (RM2,000) Salaries: RM500/Cycle (RM2,000) Input Supplies: RM400/Cycle (RM1,600)

Annual Revenue: Average revenue per 250gm salad/pack: RM10.00 Number of salads sold per cycle: 200 Packs Number of harvestings: 4 cycles for 1 year Annual revenue: RM10 x 200 packs x 4 cycles = RM8,000

Calculation:

Annual profit: 20% of RM8,000 = RM1,600 Payback period = initial investment / annual profit Payback period = RM5,000/8,000 = 0.625 years



In this example, the payback period for hydroponic is approximately 0.625 years, which is equivalent to around 7.5 months. This means the business owner can expect to recoup the initial investment in about 7.5 months of operation, considering the assumptions and figures provided.

7.2 Benefit-Cost Ratio

Annual profit: RM8,000 Initial investment: RM5,000 BCR = Annual profit / initial investment BCR = RM8,000/RM5,000 BCR = 1.6

The benefit-to-cost ratio (BCR) for the project is approximately 1.6. This means for every RM1 invested in the project, the business generates RM1.6

#### 7.3 Net present value

Net Present Value (NPV) and Internal Rate of Return (IRR) Year 1: RM8,000 Year 2: RM8,000 Year 3: RM8,000 Year 4: RM8,000 Year 5: RM8,000

Discount Rate (r): 10%

PV (Year 1) = RM8000/  $(1+0.01)^1$  = RM7,273 PV (Year 2) = RM8000/  $(1+0.01)^2$  = RM6,612 PV (Year 3) = RM8000/  $(1+0.01)^3$  = RM6,011 PV (Year 4) = RM8000/  $(1+0.01)^4$  = RM5,464 PV (Year 5) = RM8000/  $(1+0.01)^5$  = RM4,967

Calculation of NPV: NPV = PV (Y1) + PV (Y2) + PV (Y3) + PV (Y4) + PV (Y5) – Initial Investment NPV NPV = RM7,273 + RM6,612 + RM6,011 + RM5,464 + RM4,967 – RM5,000 NPV = RM25,326

The Net Present Value (NPV) for the project is approximately RM25,326. A positive NPV suggests that the project's potential profitability, discounted to the present value, exceeds the initial investment. This implies that the investment in the project is expected to generate a positive return, considering the 10% discount rate.



## 8. CONCLUSION

In conclusion, this project promotes sustainable agriculture. At the same time, the profits generated fund various fundraising projects. The collected funding benefits the students for their international academic visit in their fourth semester. Besides, the implementation of the project has a significant impact, producing innovative young agropreneurs to ensure the sustainability of the agricultural economy and business in this country.

#### 9. REFERENCES

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