



**Tabung Ekonomi
Gagasan Anak
Sarawak**

**#INNOVATE
SARAWAK**

SARAWAK DIGITAL INNOVATION & ENTREPRENEURSHIP ECOSYSTEM





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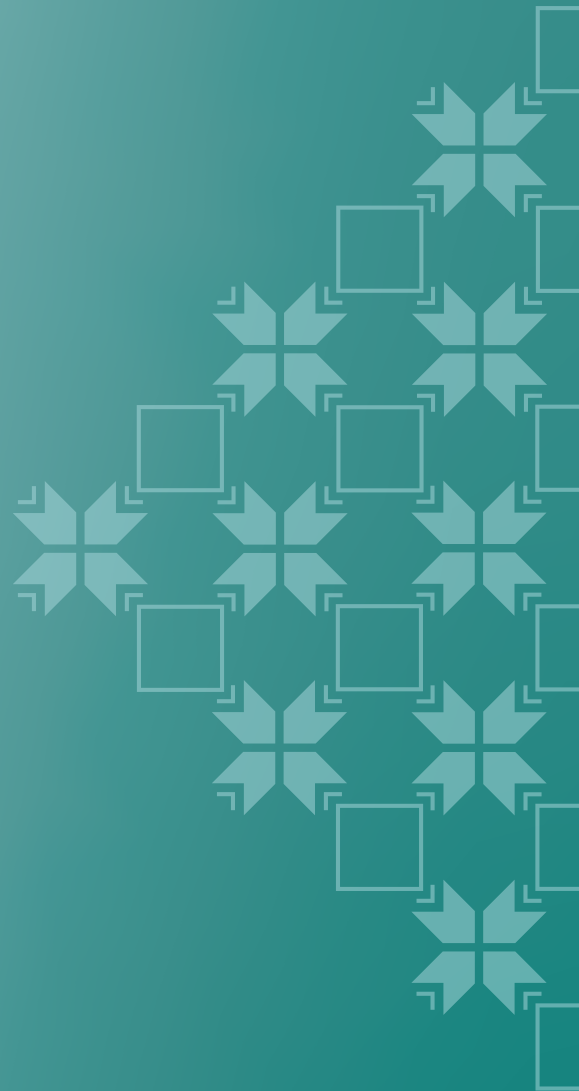
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FOREWORD







CHIEF MINISTER'S FOREWORD



When Sarawak Digital Economy Strategy (2018-2022) was launched in December 2017, we prepared the state for a paradigm shift from an economy dependent on non-renewable sources to one that is driven by digitalization.

In the coming decades, the fuel-based energy will no longer be as abundant and will not be able to sustain both the economy and nature. In order to support the wellbeing and the welfare of Sarawak and its people, while paving the way for a healthier and wealthier future, it is my conviction that the Sarawak Digital Economy Strategy is the way forward for our beautiful Sarawak and its people.

The world has gone digital for the past 20 years and it has been the trend for many countries in the past decade, and will be in the years to come. To many, it is a state of progress. But to us it is a state of mind and a means to an end, as a profound way to transform Sarawak into an

economy that will support the creative and enterprising way of its new generations of people, while striving to retain and preserve our values and culture.

This publication of this book is in support of the paradigm shift to create a digital Sarawak while aimed at proving that we have taken a step in the right direction to capitalize on digital technology. The pandemic has somewhat proved that we have made the right decision ahead of other states in the country to digitalize our economy as more and more businesses, big and small, are turning to online platforms to transact business. Notably, Sarawak Pay, our very own online payment platform has made many cashless transactions possible and has evolved into an international online payment system after the collaboration with UnionPay.

To conclude, I invite all Sarawakians to share this same dream of turning Sarawak into a developed and fully-digitalized economy by 2030 with all the passion and earnestness as proud Sarawakians.



I congratulate YB Datu Haji Len Talif Salleh and Tabung Ekonomi Gagasan Anak Sarawak (TEGAS) for this great initiative to come up with the publication of Sarawak Innovation Entrepreneurship Ecosystem.

Together we #INNOVATESARAWAK

Thank you.

YAB DATUK PATINGGI (DR) ABANG HAJI ABDUL RAHMAN ZOHARI
BIN TUN ABANG HAJI OPENG
CHIEF MINISTER, SARAWAK BUMI KENYALANG



TEGAS CHAIRMAN'S FOREWORD



Tabung Ekonomi Gagasan Anak Sarawak (**TEGAS**) was launched on 28 February 2012 by the then Chief Minister Tun Pehin Sri Haji Abdul Taib Mahmud with the slogan “Pemangkin Transformasi Modal Insan”. As a Non-governmental Organisation (NGO), **TEGAS** serves as a platform for youth empowerment in the areas of education, training, commerce and industry, especially those in the rural areas. Over the years, **TEGAS** has been successful in delivering numerous high impact programmes such as the STEM Playground, Sarawak Career & Training Fair, Pro-DR Roadshow, among others. As a result, **TEGAS** is now recognized as the catalyst for talent development in Technical and Vocational Education and Training (TVET) and Science, Technology, Engineering and Mathematics (STEM), and has been tasked to promote digital innovation and entrepreneurship in the state, in line with the Sarawak Digital Economy Strategy 2018- 2022.

The launch of the **TEGAS** Digital Innovation Hub (DIH) back in 2017 and **TEGAS** Digital Village (TDV) in 2021 by The Right Honourable Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari Tun Abang Haji Openg, Chief Minister of Sarawak is testimony to the fact that the government is serious about transforming the state through digital economy. DIH and TDV serve as platforms to empower startups and social enterprises in Sarawak to scale globally as well as facilitate the transfer and commercialization of newly developed technologies via public-private partnerships.

Entrepreneurship is a key lever in driving economic growth and prosperity. This is especially true in today's digital economy, which allows sellers to connect with customers from all across the globe. These days, the saying “the world is your oyster” has taken on new meaning. The Sarawak government has long recognized this and encouraged local entrepreneurs to be conversant with the digital economy. Initiatives undertaken by the state government include allocating funds for entrepreneurs and providing crucial training to upskill them.



The commitment and efforts we put into promoting innovation and entrepreneurship are fundamental investments we can make towards empowering Sarawakians to embrace the digital economy. Towards achieving this, various programmes were conducted and initiatives were undertaken to identify gaps in the innovation and entrepreneurship ecosystem.

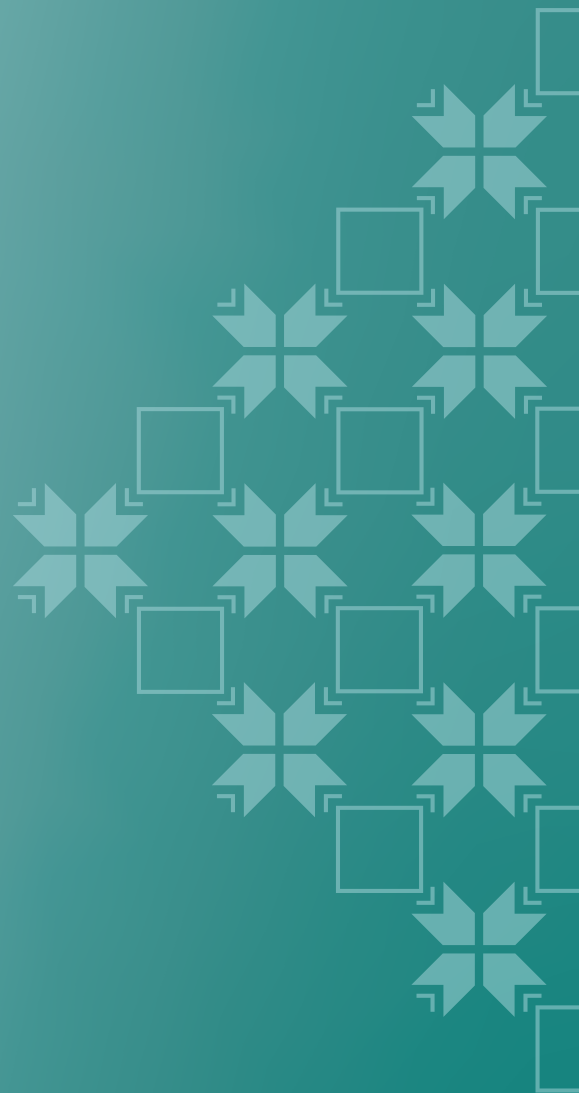
The Sarawak.Digital publication is the result of a multitude of analyses, interviews, and surveys conducted with the support of government agencies, ecosystem partners, industry experts, startups and social enterprises all across Sarawak. In addition, through the Impact Survey conducted earlier this year, almost 200 members of the public and various stakeholder groups were interviewed for their ideas and feedback.

I would like to take this opportunity to express my appreciation to Sarawak Multimedia Authority (SMA), Sarawak Digital Economy Corporation (SDEC) and all those who contributed towards the development of this publication. I realize that our vision to accelerate Sarawak's economic growth powered by knowledge, innovation and technology will not be easy and we will encounter challenges along the way. But despite this, rest assured that TEGAS is committed to delivering real and meaningful results, hand in hand with the government and private sectors. We all have a role to play in this, a role that will help sow the seeds of our Anak Sarawak's success.

We look forward to working together with all of you, in achieving the state's digital economy aspirations. Together, we #InnovateSarawak.

YB DATU HAJI LEN TALIF SALLEH
CHAIRMAN OF TEGAS

TEGAS BOARD OF TRUSTEES







**TABUNG EKONOMI GAGASAN
ANAK SARAWAK (TEGAS)**
BOARD OF TRUSTEES



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A DIGITAL SARAWAK

An Introduction

1





Photo by Ashwin Vaswani



A DIGITAL SARAWAK

1.0 An Introduction

When Cyberjaya celebrated its 20th anniversary back in 2017, it made 11 major announcements. These announcements were aimed to catalyze more strategic collaborations from the major international and regional players in the global digital landscape, accelerating the city's transformation into a global technology hub that was first envisioned when the Multimedia Super Corridor (MSC) was announced.

The announcements featured an impressive range of brand new projects and investments. They included a big data centre, a regional fintech hub, a green data centre, an innovation centre and a smart hospital. These, along with major infrastructure upgrades by developers and the Cyberjaya city council, sought to further Cyberjaya's progress in becoming a major regional smart city.

To many, the highlight of these announcements was the Cyberjaya Innovation Fund for the Future (CIFF) by the Ministry of Finance. Open to both local and foreign partners, it is a war chest of RM100 million disbursed by Cyberview Sdn Bhd over a 10-year period that is aimed to spur innovation and smart city related projects based in Cyberjaya. Many saw this as the government finally starting to put the money for digital entrepreneurship where its mouth is, and cautiously welcomed the CIFF.

One noteworthy announcement was the Futurise Centre, a joint-venture project between Cyberview and MaGIC (Malaysia Global Creativity & Innovation Centre). It is positioned as a hub for corporations, universities and entrepreneurs to converge. It is essentially a R&D and IP commercialization hub, housing the likes of Microsoft HoloLens and AI Lab and the distinguished United Nations Technology Innovation Lab (UNTIL). UNTIL brings together a host of talents and resources—UN personnel, academia, governments, start-up companies and established tech giants—to develop innovative solutions for contemporary global challenges such as smart cities, sustainable tourism or ethical fashion. This pointed towards Cyberjaya finally starting to make good on the promise of being the forefront of global digital and technological growth.

At this point however, Cyberjaya has settled into a kind of a lull. The gloriously envisioned city had spent a major part of its second decade playing catchup to the global digital race, despite its mandate to be at its forefront. It may have achieved a degree of success in becoming a key driver and contributor of the country's digital economy, not to mention a hub for knowledge-based economy and education in Asia Pacific (and extending to Africa) but the city is still behind in fulfilling the overall vision of the MSC due to a combination



of domestic socio-political factors and global technological growth.

This was indirectly acknowledged in the optimism underlined by the then Prime Minister Dato' Sri Najib Razak in his 2017 speech during Cyberjaya's 20th anniversary celebrations. "In 20 years, Cyberjaya has undergone a remarkable transformation; from an IT Hub under the Multimedia Super Corridor into a Global Tech Hub and critical contributor to Malaysia's digital economy. The city has gone from strength to strength; in 2016 Malaysia's MSC Malaysia status companies generated more than RM12.5 billion in revenue, an increase of 28% from 2015. This came hand in hand with the city's attractiveness as a base for innovations; with 40% of its population being high-value knowledge workers and housing 60% of Malaysia's data centres amongst many other milestones achieved.

Looking ahead, we have made decisive strides to push Malaysia into the digital economy—pursuant with goals laid out in our National Transformation 2050 (TN50) vision. As a model for Smart City developments nationwide—now further spurred by the announcements made today—I am fully confident in Cyberjaya's potential to contribute significantly to these goals," said Najib.¹

There are two interesting things to note here. Firstly, the language being used to describe Cyberjaya's past—an IT hub under the Multimedia Super Corridor. Secondly, Cyberjaya in reference to the TN50 (Transformasi Nasional 2050) vision instead of the Wawasan 2020. It is not a stretch to read a little bit more into the two notes above and think that they are indicative of the domestic socio-political factors that affected Cyberjaya's ability to fulfill the overall vision outlined by the MSC. Regardless, Cyberjaya has made huge strides in bridging in and cultivating a knowledge, IT, and digital economy for Malaysia. In doing so, it has also grown to become a functional and cosmopolitan smart city by its own standards.

In short, Cyberjaya has become a symbolic representation of the MSC's successes, and failures.

This book is bringing up Cyberjaya and the Multimedia Super Corridor more as a signpost and less of a measuring stick as it studies and discusses the Sarawak Digital Economy Strategy (SDES) 2018-2022. They provide a more objective and relevant comparison to the efforts of the state in creating a new economy for itself; a worthy counterpoint in evaluating the state's own efforts from the past two years.

¹ Digital News Asia (1st June 2017). *Cyberjaya a model for smart city developments*, Digital News Asia. From <https://www.digitalnewsasia.com/digital-economy/cyberjaya-model-smart-city-developments>

1



Photo by The Tuyang

There are key fundamental differences between the SDES and MSC Malaysia. But at its heart, plenty of parallels can be made. Both were intended as a paradigm shift. Both aimed to take the country/state to the next level. Both aimed to create a (more sophisticated) new economy and society. Both were digital in nature.

Most importantly, the state is not going down a new, unfamiliar route. MSC Malaysia is a precedent that the state has at its disposal, something which they can apply the age-old Malay adage “buang yang keruh, ambil yang jernih” on. And crucially, Sarawak has the benefit of hindsight—when the Multimedia Super Corridor was conceived and launched, the Information (and Communications Technology) Age was just beginning. SDES, on the other hand, was conceived with the Digital Revolution in full flow, the world at its most

connected with the internet and gadgets being at their most prevalent (and pervasive). That in itself was part of the inspiration for SDES. Furthermore, back when the Multimedia Super Corridor was starting out, Silicon Valley was its only reference. Now, the SDES can refer to numerous success stories - small and big, both local and international - to learn from.

So, looking back, was 20 years enough for Cyberjaya (and the Multimedia Super Corridor) to push Malaysia past the finish line that is Wawasan 2020? Did the glorious vision of Malaysia having its own Silicon Valley that is home for the best ICT and innovative minds of country and region become a reality? Are we really evolving into a digital and smart country that is riding the waves at the digital frontier with the best digital talents the world has to offer?



Revisiting the Multimedia Super Corridor

The Multimedia Super Corridor—colloquially referred to as the MSC—is a high-technology business district and Special Economic Zone (SEC) that stretches from Kuala Lumpur through central Selangor all the way to southern Selangor.

According to the 2008 Special Economic Zones report by the World Bank, special economic zones are generally defined as “geographically delimited areas administered by a single body that are commonly physically secured (fenced-in), offering certain incentives and benefits eligible to businesses that are physically located within the zone that also comes with separately streamlined customs procedures such as duty-free importing. Other common types of special economic zones in these contemporary times include Free Trade Zones (FTZs), Export Processing Zones (EPZ), Freeports and also Specialized Zones such as science/technology parks (the famous Silicon Valley in California), petrochemical zones, logistics parks and airport-based zones.

Launched on 12 February 1996 at the precipice of the Information Age, the Multimedia Super Corridor is a geographical zone of 750 km² (15km wide, 50km long) that connects the Kuala Lumpur International Airport (KLIA)—the main entry point into Malaysia—to the very centre of Malaysia’s

capital—Kuala Lumpur—itself. From its northern tip the Petronas Towers in downtown Kuala Lumpur, the MSC extends southwards through parts of Bandar Tun Razak, Puchong and Serdang into most of the Sepang constituency before ending at Nilai, Negeri Sembilan. This stretch includes Technology Park Malaysia, Universiti Putra Malaysia and the country’s heralded global Smart Cities—Cyberjaya and Putrajaya.

At the time, Kuala Lumpur offered more than 1.67 million square meters of enterprises, commercial, retail, hotel, residential and entertainment facilities. The Petronas Towers and its affluent surroundings were complemented by the Menara Kuala Lumpur, a 421 meters tower that houses world-class telecommunications infrastructure to meet the city’s telecommunication needs. Technology Park Malaysia was a center for research and development activities in the region that many global multinational companies in financial services, technology and ICT called home. Universiti Putra Malaysia was the country’s leading agricultural university that contained the Technology Incubation Centre, a joint-venture between UPM and MTDC (Malaysia Technology Development Corporation).



Putrajaya was meant to be the headquarters for the Malaysian government, where ICT will be widely applied as one of the 7 MSC flagship applications, replacing traditional manual paper-based processes to push the ICT agenda from the top-down. Despite this, and being the country's administrative capital, Putrajaya was not to be the heart of MSC.

That honour was given to Cyberjaya—a smart city with three main zones for enterprises, commerce, and housing—that was designated as the national ICT capital. Cyberjaya was a self-sustaining development with multimedia industries, incubators and R&D centres and a multimedia university to generate a knowledge-based ICT workforce and economy. It is also home to shared services and outsourcing centres, initially serving as the location for operational headquarters of multinational companies to direct their regional and worldwide business activities.

Putrajaya and Cyberjaya were located a mere 15km from each other. This proximity was intended to have a synergistic and symbiotic effect on Malaysia's effort to drive further ICT growth from top-down and bottom-up. For good measure, MSC also ambitiously launched the E-Village, Malaysia's multi—million—dollar answer to Hollywood that is just a 10-minute drive away in Dengkil.

E-Village was modelled after Universal Studios with the hope of making Malaysia a hub for the booming Asian film industry, as a natural consequence of having a global ICT and knowledge-based economy hub in its backyard. The plan was to have eight studios, an academy of dramatic arts, theme parks, a hotel, residential areas and health farms.

MSC was inaugurated by the then Malaysian Prime Minister Datuk Seri Dr. Mahathir Mohamad to accelerate Malaysia towards Wawasan 2020. In his own words, "MSC is paramount to leapfrog Malaysia into the 21st century and achieve Wawasan 2020. It was created to endeavour the best environment to harness the full potential of the multimedia without any artificial limits. MSC is a global test bed, where the limits can be explored to find new ways of living, working, and playing in a new Information Age."² The Multimedia Development Corporation (MDC)—later rebranded to Malaysia Digital Economy Corporation (MDEC)—was created to implement the MSC.

MSC was implemented in three large phases. This was meant to allow greater robustness and resilience in building an ICT ecosystem that can sustain the execution of the overall MSC vision amidst the changes that will surely come in the coming 25 years.

² Malaysian Institute of Certified Public Accountants. B19 - Multimedia Super Corridor. From <http://www.micpa.com.my/v2/formembers/budget2011/B19.pdf>



CHAPTER 1 A DIGITAL SARAWAK



Photo by MDEC

Phase One (1996-2003) focused on launching the aforementioned corridor in Selangor-Kuala Lumpur, building and recognizing world class MSC-status companies, launching the seven MSC flagship applications, setting up a framework of cyber laws and developing Cyberjaya. Phase Two (2004-2010), dubbed the MSC NEXT LEAP, expanded MSC nationwide by rolling out corridors made up of cybercities and cyber-centres in strategic locations across the country via awards (Bayan Lepas Free Industrial Zones in Penang and Kulim Hi-Tech Park in Kedah) or new developments. Phase Three (2011-2020) sees the entire country transformed into one mega corridor made up of a thriving knowledge-based economy and society.

The seven MSC flagship applications were Electronic Government, Telemedicine, Smart School, Multipurpose Smart Card, Research

and Development Clusters, Worldwide Manufacturing Web and Borderless Marketing.

From amongst all these applications, the Electronic Government was meant to play a central role—improving how the Malaysian government operates internally as well as how it serves the rakyat. Internally, it was meant to improve the flow of information and processes within government, helping inter—agency coordination and collaboration while enhancing policy policymaking and enforcement. Multimedia will facilitate paperless administration linking Putrajaya to all government centers throughout the country, while increasing citizen's access to governmental services. It will make the Malaysian government more responsive to the needs of its citizens.



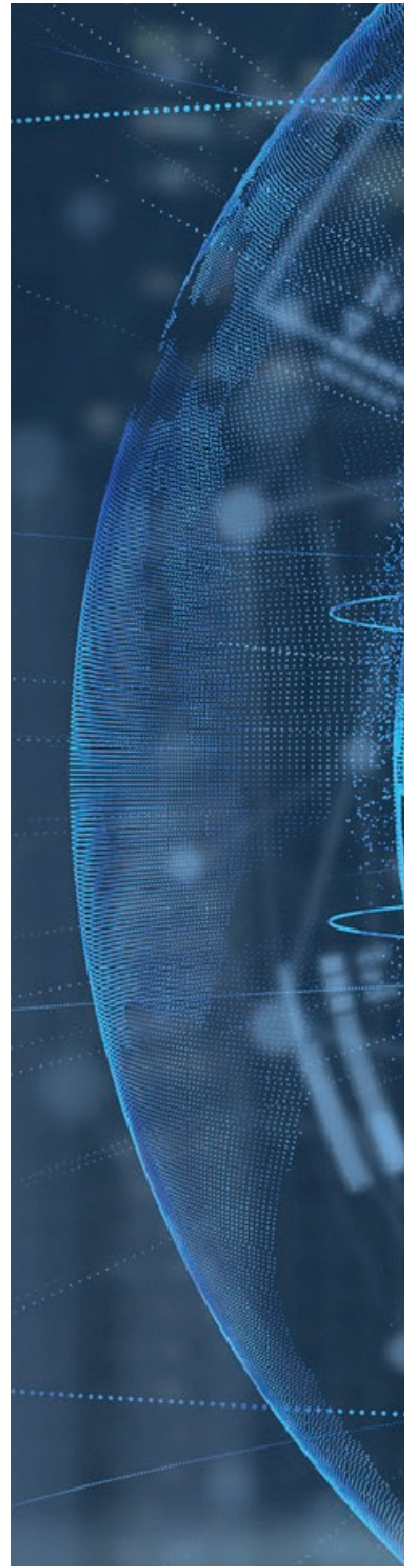
The Multimedia Super Corridor was meant to attract FDI from world—class technology—led companies for further development of local Malaysian industries. It was promised as a test bed for invention, research, and ground-breaking Malaysian multimedia developments via its seven flagship multimedia applications. It was meant to be the home for a global community of the Information Age, a multimedia utopia for a productive multimedia value chain of goods and services. The dream was a cyber future—one full of smart homes in smart cities where the youth studied in smart schools while we used smart cards in everyday activities; one where people converged to form smart partnerships through multimedia capabilities, infrastructure legislation and policies.

All in all, the Multimedia Super Corridor—now known as MSC Malaysia—promised to turn Malaysia into a developed country through a sophisticated knowledge-based society and economy, and in turn, fulfill the Wawasan 2020.

The Multimedia Super Corridor - A brief review

Discussing the successes (and failures) of MSC Malaysia requires a lot of context. While there are plenty of clear, measurable targets divided by across the three main phases, a substantial part of MSC Malaysia's farther—reaching impacts are more intangible or not directly quantifiable by conventional economic metrics. This book is not attempting a critical review of MSC Malaysia—we are not the right party nor medium—it merely references it in studying the early days of the Sarawak Digital Economy Strategy (SDES) 2018-2022.

By and large, MSC Malaysia was generally successful. It has delivered infrastructural and technological changes in the focus locations and areas. It has helped diversify the country's economic portfolio, and contributed a significant percentage to the country's GDP. The numbers make good reading—Malaysians have indeed become a smarter people, and Malaysia is well on its way to become a smarter country.





CHAPTER 1
A DIGITAL SARAWAK



Photo by MDEC

1

PHASE

1

1996-2003

It is generally accepted that it surpassed all its Phase 1 (1996-2003) milestones and targets. The main corridor stretching from the Petronas Towers to KLIA was successfully established. The target of 50 world-class local companies was smashed with 742 companies (50 foreign and local MNCs) were awarded MSC status. The seven flagship applications were launched. ICT infrastructure along the corridor and two designated global smart cities (Cyberjaya and Putrajaya) were created. Cyberjaya, in particular, found a niche as a regional outsourcing and shared services haven for multinational companies, further solidifying the country's desire to transition into a knowledge-based economy. The Multimedia University was launched. Cyber laws and policies were outlined and gazetted. All in all, by the end of Phase 1, an estimated 22,000 jobs created and a revenue of RM6 billion was achieved.³



Photo by Anisha Tulika

A brand new initiative of the MSC was also unveiled during Phase 1 was the Creative Multimedia cluster, which aims to catalyse the development of the Malaysian creative content industry in Malaysia, engaging the participation of global producers.

³ Dr. Khattab Imran Saleh, Farhan Abdulrahman Kheder, Assist. Prof. Nzhan Mohamed Sahoo (May 2020). *The Impact of Multimedia Super Corridor (MSC) on Malaysian Economic Growth. Journal of Arts, Literature, Humanities and Social Sciences. From: www.jalhss.com, Volume (52).*



PHASE

2

2004-2010



Phase 2 of MSC Malaysia was a greater challenge. It began right after Datuk Seri Dr. Mahathir Mohamad retired as Prime Minister and was replaced by Datuk Seri Abdullah Ahmad Badawi. It was also the phase when a web of similar corridors will be established in Malaysia and linked to other global smart cities worldwide. Despite the political challenges and increasing project scope, seven cybercities and eight cyber-centres were

successfully rolled out. Additionally, an estimated 100,000 jobs were created with 1,400 IP rights granted. Connectivity to world-leading smart cities in Japan, Europe, Asia Pacific the US was also established available on outbound bandwidth at 27 Gbps.

Phase 2 began in earnest and optimism. When MSC began in 1996, there were less than 300 IT companies but by 2004 there were over 3,400. These companies collectively attained a revenue of RM7.21 billion, with export of ICT products and services amounted to RM1.57 billion. In 2005, Malaysia's ICT sector grew by 17% greater than the country's overall GDP growth of 5.2%.⁴

This optimism was evident in then Prime Minister Datuk Seri Abdullah Ahmad Badawi's speech at the launch of MSC Malaysia Phase 2. "Although the MSC had its fair share of setbacks, many of the original targets that had been set were in fact surpassed.

⁴ Expatriate Malaysia Business Guide. Multimedia Super Corridor MSC Malaysia. Expat.com.my. From <http://www.ypat.com.my/Multimedia%20Super%20Corridor%20MSC%20Malaysia.htm>



Among the many strengths of the MSC is the strong record of our flagship applications. MSC NEXT LEAP will see the continued roll-out and enhancement of the current flagships, which will be more people-centric. Specifically, more emphasis will be given to reducing the digital divide as well as enhancing transparency and service delivery in the country. ICT will be brought to within the reach of all Malaysians regardless of their racial, social, cultural or economic backgrounds.

In fact, this MY MSC campaign launched today is part of our effort to create a greater awareness and usage of ICT by Malaysians from all walks of life. I believe the next seven years will see ICT becoming more relevant to the lives of all Malaysians. In our economic system, our education system, health system, and even in our day-to-day transactions, technology will be there to help us achieve many of our aspirations. It is therefore my fervent hope that together, we can help make MSC NEXT LEAP as successful, if not more so, than the Phase 1. On that note, it is now my honour and privilege to officially launch the

MSC NEXT LEAP, the MY MSC campaign and the commemorative MSC stamps.”⁵

However, the political change eventually took its toll as the changes and uncertainty brought by the change in political stewardship affected the further implementation of Phase 2. From the 3,750 MSC status local companies and 250 MSC status global companies targeted in this phase, only 1,482 MSC were recorded by the end of 2007. From this total, 84 are MNCs.

Furthermore, the flagship applications launched in Phase 1 did not take off and fulfill their full potential as planned. ICT-related laws, especially those on IP protection, weren't adequately implemented and enforced.⁶ This stagnated further as another political change soon took place—after leading ruling coalition Barisan Nasional to demoralizing performance in the May 2008 12th General Election, Prime Minister Datuk Seri Abdullah Ahmad Badawi succumbed to pressure and stepped down for Dato' Seri Najib Razak to take over as the 6th Malaysian Prime Minister in April 2009.

⁵ Datuk Seri Abdullah Ahmad Badawi (July 2004). *The Launch of the Multimedia Super Corridor (MSC) NEXT LEAP*. Koleksi Arkib Ucapan Ketua Eksekutif. From <https://www.pmo.gov.my/ucapan/?m=p&p=paklah&id=2864>

⁶ Dr. Khattab Imran Saleh, Farhan Abdulrahman Kheder, Assist. Prof. Nzhan Mohamed Sahoo (May 2020). *The Impact of Multimedia Super Corridor (MSC) on Malaysian Economic Growth*. *Journal of Arts, Literature, Humanities and Social Sciences*. From: www.jalhss.com, Volume (52).



PHASE



2011-2020



Photo by Compare Fibre

In Phase 3, Malaysia was meant to evolve into one Multimedia Super Corridor. An International Cybercourt of Justice was planned for establishment in MSC Malaysia and 12 more smart cities will be linked to the global information highway. Furthermore, up-to-date ICT infrastructure and infostructure will be equipped in the core areas of MSC Malaysia by the government, featuring high-capacity global telecommunications and logistics networks.

At the time this book was commissioned and written, Phase 3 was reaching its end in a

sombre 2020 that was deep in a global lockdown caused by the COVID-19 pandemic that followed the infamous Langkah Sheraton political coup. This is not a book that is really interested in these political developments unless it has relevance and connection to the subject matters covered by the book. However, for this section, it is hard to ignore the decade-lasting impact of the political changes and developments caused by the combination of Datuk Seri Abdullah Ahmad Badawi stepping down as Prime Minister and Dato' Sri Najib Razak replacing him.



For the rakyat and common observer, it is fair to say that the overall vision of MSC Malaysia - Malaysia evolving into one Multimedia Super Corridor itself, the country becoming a developed nation with a knowledge-based society and economy—did not quite come to fruition as was envisioned. Many factors converged to compound the situation.

From an infrastructural and infostructural perspective, MSC Malaysia was relatively successful, at least within the designated corridors and the areas within their geographical proximities. The internet and digital readiness and application in major urban areas are high, and the country's social media usage and online presence are among the highest in the world. The rebranding of the Multimedia Super Corridor (to MSC Malaysia) and MDC (to MDEC) that came during Phase 2 may have been seen as a political move by some, but it is also a sign that the then administration was adaptable enough to move with the times. The formation of M@GIC (Malaysian Global Innovation and Creativity Centre) early in Phase 3 can also be taken as an example (along with a bunch of government-linked agencies supporting digital

and technological entrepreneurship such as Cradle Fund) of the government supplementing existing efforts with new strategic initiatives.

Despite all these efforts (and those not listed), the fact that MSC Malaysia came to a somewhat subdued—and unsurprising—conclusion could be attributed to the lack of continuity between Phases 1, 2 and 3 caused by political changes. This is why it was interesting to note the language in then Prime Minister Dato' Sri Najib Razak's speech during the Cyberjaya 20th anniversary celebrations referred to earlier in the chapter. Political distancing aside, considering that the speech (2017) came when the finish line (Wawasan 2020) was well within sight, it was wise to shift expectations knowing that the overall vision of the Multimedia Super Corridor—or MSC Malaysia—was realistically out of reach.

The above may be an interesting narrative for some, but at this point it remains presumptuous. Until an official review of MSC Malaysia (and Wawasan 2020) is conducted and published, we will not know the full story of MSC Malaysia. It is also best that we refrain



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from engaging such thought exercises for now, especially considering MDEC's steadfast pursuit and efforts to ensure that MSC Malaysia remains relevant. Despite all their challenges, MDEC have played an indelible role in driving the country's Digital Economy and the Digital Malaysia agenda—they are responsible for the 2,954 active MSC Malaysia companies (as at May 2019), along with the RM 472 billion ICT/digital revenue and the 182,538 jobs generated as of 2018.⁷

Another possible factor is symbolized by how the refrain "Information Age" that was popular in the 2000s quickly made way for the new "Digital Age" come the 2010s. This change came when the multimedia and ICT of yesteryear evolved from a more hardware and infrastructure based landscape to a digital landscape that is driven by IoT (Internet of Things), gadgets and applications. The once popular "cyber" and "virtual reality" catchphrases have been replaced by "online" and "augmented reality". This exponential growth and evolution of IT since the turn of the millennium have granted the world a hyperconnectivity and computing power that

were only fanciful imaginations found in sci-fi books, films and pop-culture. Our smartphones and tablets now carry a computing and memory capacity that dwarfs the best desktops and laptops that money could buy 10-15 years ago at a cheaper price. Amazon online purchases have made way to a full-blown global e-commerce landscape that is shaped by the likes of AliBaba Group. Messenger applications such as Whatsapp and Telegram have made SMS and emails look old. The novel online culture in the social media over 2010s have now become a legitimate platform for lifestyle and livelihood, with the likes of Facebook and Instagram pivoting from pure social media to allow for profitable independent, entrepreneurial endeavours.

The speed and tenacity of the irrepressible global digital progress above might have also played a role in affecting MSC Malaysia's ability to keep up with the times, especially when these huge socio-technological leaps of the last decade coincided with what was arguably Malaysia's most politically tenuous period since May 1969.

⁷ MDEC. *Stimulating the growth of the nation's digital economy*. Malaysia Digital Economy Corporation.
From <https://mdec.my/what-we-offer/msc-malaysia/>



A Digital Sarawak

There are two stories on the genesis of the Multimedia Super Corridor.

One was the multinational consultancy firm McKinsey & Company.⁸ Vicziany and Puteh wrote in their paper that it was McKinsey who persuaded the then Prime Minister Datuk Seri Dr. Mahathir Mohamad that industrial manufacturing alone would not help Malaysia achieve its future growth targets. It was them who suggested building an IT Hub to leapfrog the country into the future, and connected the country's industrial concerns with the achievements of Silicon Valley.

Another story is how Datuk Seri Dr. Mahathir Mohamad was impressed and inspired by Japanese multimedia expert Dr. Kenichi Ohmae's paper "Making a Malaysian Miracle—A New National Strategy for Success in The Information Age". It was presented to the then Prime Minister and his cabinet, and was seriously studied after. It highlighted strong rationales for Malaysia to be a regional hub of the information resources, and eventually led to the Multimedia Super Corridor (MSC).⁹

The truth behind MSC Malaysia may be somewhere in between, but at the very heart

of it is the very same spirit that has sparked the Sarawak Digital Economy Strategy (SDES) 2018-2022—to transition into a new digital economy by catalyzing a paradigm shift to create a smarter, digital society. Datuk Seri Dr. Mahathir Mohamad saw the urgent need to change the nation's economy from an existing traditional or conventional form that is based on industrialization and manufacturing to something more future proof. 20 years later, Chief Minister Datuk Patinggi Abang Zohari Tun Haji Openg felt the same need to bring Sarawak into the future, and saw the same vision that has helped define Datuk Seri Dr. Mahathir Mohamad tenure as our longest-serving Prime Minister ever.

Whether the SDES will eventually come to define Datuk Patinggi Abang Zohari's tenure remains to be seen—it is too early to even think about that—but what is certain is that he intends to create an economy where the Sarawak people can finally define their lives and future on their own terms.

And this very intent might just be the very thing that will come to define his tenure.

⁸ Marika Vicziany, Marlia Puteh. *Vision 2020, the Multimedia Super Corridor and Malaysian Universities*.

From http://kamalharmoni.com/uum/IT_Policy/assignemnt-1/journal/vision%202020-%20the%20multimedia%20super%20corridor%20and%20universities.pdf

⁹ Azman Mohd. Yusof. *Multimedia Super Corridor and Electronic Government in Malaysia*.

From <https://azman97.tripod.com/essay1.html>



A DIGITAL VISION

Envisioning a Digital Sarawak
Sarawak Digital Economy Strategy
2018-2022

2





Photo by Laurentiu



A DIGITAL VISION

2.0 Envisioning a Digital Sarawak

When discussing the new Sarawak economy, it is important to begin with context.

The story of how Sarawak became a major contributor to Malaysia's economy is tied closely to its geography. Located in the third largest island in the world (and the largest in Asia), Sarawak is home to one of the richest and diverse natural resources in the world. The uniquely diverse Borneo tropical rainforest is an abundant natural resource, perfect for an economy that represents arguably the most racially diverse and populous state in Malaysia.

It is also a story of evolution, and growth. From its early days of colonially-driven production to its current petroleum-based exports, Sarawak has become a proud self-sustaining state of its own by opening the doors to its verdant backyard for the world.

In the 19th century, long before the state became part of Malaysia, its economy was focused on mining and agriculture. These traditional economic activities were straightforward and expected, given its geography. At the time, the sea was still the world's highway of choice, so the majority of these economic activities were based on the state's coasts. Sarawak's exports at the time had unique intrinsic value, but since most of these are located deep into its unexplored internal terrain, production was limited and

costly. A combination of distance, lack of suitable technology and manpower rendered these mining and agricultural products less attractive for foreign investments at the time. As such, most of Sarawak's economic activities then catered to local needs.

When the Royal Dutch-Shell discovered oil along the state coasts and started oil and gas production in 1907, Sarawak started featuring prominently in the export business. This saw a rise of its status and position within the region. This burgeoning promise of a prosperous state became fulfilled in the 1960s, when Sarawak joined hands with its neighbour Sabah (then known as North Borneo) and Malaya to form the Federation of Malaysia in September 1963. This union gave the Sarawak economy impetus to expand when Malaysia's primary sector range of exports increased rapidly with hardwood timber. This, mostly in the form of unprocessed sawn-logs to East Asia and Australasia, led to more domestic and local investment that overcame the previous problems production costs and limitations.

This was when Sarawak first became synonymous with Malaysian economic development.

The 1970s saw the state make another economic leap with the discovery of large deposits of oil and natural gas along its now



CHAPTER 2 A DIGITAL VISION



Photo by The Tuyang

more familiar coasts. This resulted in further development and growth along the state's coast, which eventually provided more access and agency to the state's deep rural areas. Since then, Sarawak had become heavily dependent on primary products like timber, oil and liquified natural gas for its economy.

Looking back, it is fair to say that Sarawak's economy was stagnant during the rule of its three white Rajahs. After the formation of Malaysia, its GDP growth rate rose due to the increased demand and production of timber,

along with the increase in petroleum output and the rise in global petroleum prices. While the state enjoyed the fruits of its labour and soil throughout the 1980s and 1990s, the turn of the millennium saw the state economy come stagnant again, remaining less diversified and still hugely dependent on primary commodities exports when compared to Malaysia overall.

And one of the major long-lasting effects of the state's economy since the turn of the millennium is the urban-rural income gap.



Understanding the Sarawak economy

Sarawak's abundance in natural resources means that primary industries such as mining, agriculture, and forestry accounts for a roughly third of its economy. The majority of the remaining two-thirds are made up of food and beverages manufacturing, wood-based and rattan products, basic metal products, and petrochemicals. Cargo, air services and tourism complete the numbers.

Throughout the 2000s until the early 2010s, the state's GDP evolved from one that is steadily growing GDP into one that is volatile. For example, it grew by 5.0% annually on average from 2000 to 2009 but fluctuated between -2.0% and 7.0% in the next 5 years. Despite this pattern, the state still managed to sustain its position as the third largest contributor to the Malaysian economy behind Selangor and Kuala Lumpur up until 2013, averaging a substantial 10.1% contribution year-on-year.

During this period, roughly 30% of its economy is contributed by mining, agriculture and forestry. Oil and gas industry accounted for 34.8% of the state government's revenue—the attracted RM 9.6 billion in foreign investments, with 90% attributed to the Sarawak Corridor of Renewable Energy (SCORE), the second largest economic corridor in Malaysia.

Evidently, Sarawak's economy has been exports-based.

As of 2017, Sarawak produced 850,000 barrels of oil equivalent every day, all coming from 60 oil and gas producing fields. There is a huge dependency on liquefied natural gas (LNG) however, with it accounting for more than half of the state's total exports. The remaining major contributing exports are crude petroleum at 20.8%, with another 9.0% collectively accounted for by palm oil, sawlogs, and sawn timber. Most of the state's oil and gas deposits are located offshore—the Balingian basin (Bintulu and Miri), the Baram basin, and around Luconia Shoals. These deposits earns Sarawak a 5% royalty from Petronas over its oil explorations in the state's waters, a contentious figure that has always been intertwined with Sarawak's political history in Malaysia's history.

Sarawak has also remained one of the world's largest exporters of tropical hardwood timber since the turn of the millennium, actively exporting roughly half of the country's log exports since its 65% record in 2000.

Previous efforts since 2000 to diversify the Sarawak economy did not stray too far from the non-renewable resources. Tourism was—and still is—a popular option.



But accessibility, its seasonal nature and the dependency on volume has not made it easy to scale up. So in 2008 the state attempted a soft pivot to the energy sector with SCORE.

SCORE (Sarawak Corridor Of Renewable Energy) was established as a framework to develop the energy sector in the state. This focus of this framework were the Murum, Baram, and Baleh Dams as well as potential coal-based power plants. It also paved the way for 10 high priority industries aimed for 2030. SCORE will help develop the entire central region of Sarawak, while including areas such as Samalaju, Tanjung Manis, and Mukah. Spinoff developments include Samalaju as an industrial park, Tanjung Manis as a halal food hub, and Mukah as the administrative centre for SCORE focusing on resource-based research and development.

This soft pivot is well and good—it fits the state's economic identity of dealing with energy and natural resources while demonstrating a visionary long-term view towards renewable energy. It is aspirational and is aimed to address the inherited pain points of the state's economy—the lack of diversified economy and the dependency on

finite non-renewable natural resources, not to mention a growing urban-rural income divide.¹ It will also need the state's contemporary socio-economic concern of Sarawakian youth migrating for tertiary and employment opportunities.

It was this realization that led to the five-year Sarawak Digital Economy Strategy 2018-2022.

The Sarawak Digital Economy Strategy, 2018-2022 (SDES) roadmap was hailed as the beginning of Bumi Kenyalang's digitalisation transformation when it was first unveiled by Chief Minister Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg in December 2017. Both the unveiling of the first iteration of this roadmap and the launch of Sarawak Multimedia Authority (SMA) on the same day coincided with Sarawak's Civil Service Day celebrations. This was meant to help Sarawak's civil servants recognize and understand the significance of this roadmap, as they are the main executors of these digitalisation initiatives. Top officers of the Sarawak Civil Service were expected to play key roles in the roadmap implementation alongside seasoned corporate figures as fellow collaborators.

¹ Jomo Kwame Sundaram, Chong Hui Wee. *The political economy of Malaysian federalism. Economic development, public policy and conflict containment. UNU-WIDER Discussion Paper 2002/113. From <https://www.econstor.eu/bitstream/10419/52740/1/358489571.pdf>.*

2

Prior to its eventual launch a month later, the passing of Sarawak Multimedia Authority Ordinance 2017 by the Sarawak State Legislative Assembly on 8 November 2017 then enabled the formation of Sarawak Multimedia Authority (SMA). SMA's primary role is to spearhead, oversee and facilitate the development and the implementation of the State's communications, multimedia and Digital Economy initiatives. SMA also incorporated the Sarawak Digital Economy Corporation (SDEC) as a Sarawak government-owned agency, whose role is to implement the development of the communications and multimedia activities in the state. The governing and facilitative aspects of the Digital Economy programmes and projects are overseen by SMA, whereas the SDEC's role is to implement them. SMA's operations are based within the premises of the Yayasan Sarawak head office at Jalan Masjid, Kuching, and is chaired by Abang Zohari himself.

As previously stated during the SDES launch ceremony, the end goal of this strategy is for Sarawak to become a high-income, developed Malaysian state by the year 2030. This meant





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Photo by Sarawak Media Group

that the urban-rural divide needs to be bridged by then, and to achieve this crucially requires digital connectivity. Additionally, the inception of a thriving digital economy might just be what the state needs for it to break from what has often been deemed as an over—reliance on natural resources. Some of Sarawak’s earliest efforts to commit to this vision were the launching of Sarawak Pay (a cashless mobile payment solution implemented by the state government) in January 2017 to empower its digital economy agenda, holding a two-day International Digital Economy Conference Sarawak (IDECS) in April and the launch of **TEGAS** Digital Innovation Hub (TDIH) in August of the same year.

The SDES was conceived to help bring together all previous economic efforts by previous state administrations, in a way that is still in line with Malaysia’s Multimedia Super Corridor (MSC) and Wawasan 2020 visions. This was meant to provide a semblance of continuity and progress, while facilitating a transition that is more suitable for the future digital frontier.



2.1 Sarawak Digital Economy Strategy 2018-2022

The Sarawak Digital Economy Strategy 2018-2022 (SDES) is a holistic plan based on a singular vision to provide for a new Sarawakian economy. This new economy is one that is powered by knowledge, innovation and digital technology, a clear shift from a stable economy with a steady revenue based on traditional non-renewable natural resources. It is an economy with an accelerated growth to bring Sarawak level with the highest earning states in Malaysia such as Selangor, Johor and Penang by harnessing the power of digital technology in creating a self-sustaining value-based economy.

The SDES aims to reduce the socio-economic divide between the higher populated urban areas and the scattered and clustered indigenous rural areas. The SDES's digital focus will also reach out to the youth demographic, mobilizing them for the state by

generating more employment opportunities, be it within the existing sectors or in new markets through entrepreneurship. All the above mission and vision of the strategy is clearly outlined in the first iteration of the SDES document.

This framework is articulated across 47 strategic actions that are to be implemented within the entire five-year period. Each of these strategic actions have clear objectives and examples of executions and implementations. 29 of the 47 strategic actions cover the 8 anchor economic sectors while the remaining 18 is allocated for the 7 Digital Economy enablers. This shows a clear understanding and focus on the drivers of the state's economy and what is needed to take it to the next level, with the strategy distributing the state's resources in a cohesive and concerted manner.



The 8 anchors of Sarawak digital economy

The key economic sectors that Sarawak has identified as anchors to carry the state into a new digital future are Agriculture, Manufacturing – Industry 4.0, Tourism, Smart City, Digital Health, e-Commerce, Digital Government and Social Sectors. This is evidence of the state's desire to move on from its finite non-renewable natural resources—Agriculture and Manufacturing are not traditional major economic contributors

for the state, but are sectors that offer a more self-sustaining future to its workforce. These sectors are also highly scalable and perfect for the state's abundant geography. Tourism has always been a major earner for the state, and is a natural choice for an anchor sector. The remaining sectors are strategic choices to help the state evolve into a more cosmopolitan and contemporary destination for investment and living.

Economic Sector 1

Agriculture

The aims of the 3 strategic actions for the agriculture sector are to improve the sector's efficiency and productivity, as well as to access new markets for agriculture produce and products. Action 1 is to adopt ICT and digital technologies in transforming the agricultural sector and driving innovation, such as implementing IoT (the Internet of Things) and sensor technology for various smart farming activities such as soil nutrient checking and precision fertilisation.

Meanwhile, Action 2 is to establish an efficient distribution system for agriculture inputs and products by utilising IoT in managing the supply chain.

Developing new markets and extending new ones for agricultural products and produce fall within Action 3, which include forming various collaborations with both domestic and international investors as well as venture capitalists.



Economic Sector 2

Manufacturing - Industry 4.0

These strategic actions aim to improve manufacturing competitiveness using the applications of technological and business tools, and to create more technology driven SMEs. Action 4 is to adopt Industry 4.0 to fuel the digital transformation of the manufacturing sector, via steps such as automation, the adaptation of IoT and application of Big Data. Meanwhile, Action 5 entails the exploration of

various opportunities for alternative energy by spearheading the research & development on hydrogen fuel cell technology and application. Additionally, Action 6 involves providing incentives to grow local SMEs and opportunities for globalisation via funding and acceleration support, incentives as well as commercialisation.

Economic Sector 3

Tourism

Digital technology should play a larger role in expanding the state's tourism ambitions and position Sarawak as a major tourist destination. These strategies are set to do so, helping to create better presentations for the state's tourism products and services by enhancing tourist experience via digital technology tools.

Action 7 involves the promotion of Sarawak via digital media, by building and promoting

the state tourism content across multiple social media platforms and other digital channels. Action 8 builds upon this by providing a digital platform for tourism product and service providers to enhance their business, which is one-stop and supported by big data. Personalising the online tourist experience is tackled by Action 9, via steps such as improving websites and portals, making tour-planning more user friendly, and utilising AR/VR functions.



Economic Sector 4

Smart City

A key component of a thriving digital economy is a digital ecosystem that consists of highly utilized digital infrastructure. A smart city is the current ideal of such an ecosystem, and the state has recognized the significance of having a smart city status in attracting foreign investment. Below are its main actions in building smart cities within the state.

4.1 *Transport, Logistics & Supply Chain*

The state has introduced the following strategies with the objective of providing high quality and efficient services to the rakyat, as well as to provide healthier living environment and efficient waste management.

Action 10 involves providing clean, reliable and cost-efficient energy using smart technologies such as real-time monitoring applications, sensor technologies and smart gas meters, whereas the provision of efficient water supply services leveraging on smart technologies such as Smart Water Metering System, intelligent water supply management system and a State-wide treated water grid is tackled by Action 11. The development of a smart solid waste management system is

outlined in Action 12, featuring upgrading and improvement works to the Green Waste Disposal Centre as well as intelligent waste management. Action 13 follows through with enhancements to the efficiency of wastewater management to prevent pollution and water-borne diseases. This modernises The state's waste management facilities and the sewerage system, which includes a sensor-integrated sewerage treatment plant. Action 14 pertains to the development of a flood management and response system, via smart and sustainable stormwater management, integrated smart development planning, storm water management and flood information management system.



4.2 *Housing & Urban Development*

The next 2 strategies will be implemented in order to achieve smarter and more comfortable living and create eco-friendly urban living and workspaces.

Action 15 is to ensure efficient development of sustainable housing and enhance convenience, safety and comfort for city dwellers. Among some of the initiatives which fall under this action are the implementation of smart housing design platform, automated

surveillance for crime monitoring and prevention using big data analytics, centralised infrastructure and utility mapping, free public WiFi hotspots and the utilisation of smart systems for development planning including strata housing management. Additionally, the implementation of Green Building Index (GBI) in new government and private non-residential buildings in major cities and towns falls under Action 16.

4.3 *Transport, Logistics & Supply Chain*

These strategies aim to improve mobility and user experience in transport service, and to develop more efficient logistics support for digital economy activities.

Action 17 is set to establish a comfortable and safe mobility for commuters using smart technologies such as an integrated transportation system for Kuching, intelligent

route selection, digital asset management, smart traffic light, smart parking as well as digital information signage. Additionally, Action 18 looks to develop integrated logistics solutions to support e-commerce by implementing e-warehousing, Integrated Free Trade Zone, vessel tracking and management system, shipping and cargo information system.



Economic Sector 5

Digital Health

Digital technology is set to play a significant role in improving the accessibility, efficiency and quality of medical and health services for everyone, everywhere as well as to improve the management of communicable diseases.

It will also help the state achieve higher revenue from health tourism. Action 19 looks to increase accessibility and improve the level of medical and health services via better

Internet connectivity and utilising smart devices. Action 20 will then safeguard the health of people living, staying and working in Sarawak using an integrated monitoring system for all foreign workers in terms of health records and immigration. Additionally, Action 21 is set to provide world-class specialist healthcare services and grow health tourism in Sarawak.

Economic Sector 6

E-Commerce

This sector has been increasingly relevant—in the efforts to increase the sales and revenue from export of Sarawak products globally, and to improve the marketing of local products via various e-Commerce strategies and platforms. Action 22 entails improving Sarawak's e-commerce and services ecosystem by creating intelligent supply chain management, policies, fulfilment hubs, applications for online commerce such as eMarketPlace via produksarawak.com. Action 23 then builds on this by increasing

awareness on Sarawakian products and services via marketing and branding on digital platforms and networking. Additionally, Action 24 looks to increase e-Commerce adoption, such via business assistance, education and research & development initiatives. The creation of a FinTech platform like Sarawak Pay capable of providing technological and business tools to gain a competitive advantage in current and future markets is tackled by Action 25.



Economic Sector 7

Digital Government

A key component of the state's digitalisation efforts is creating an open and seamless digital government to innovate and improve the state government's service delivery. Action 26 initiates a Digital Government based on the five principles of open government, data-centric government, innovative

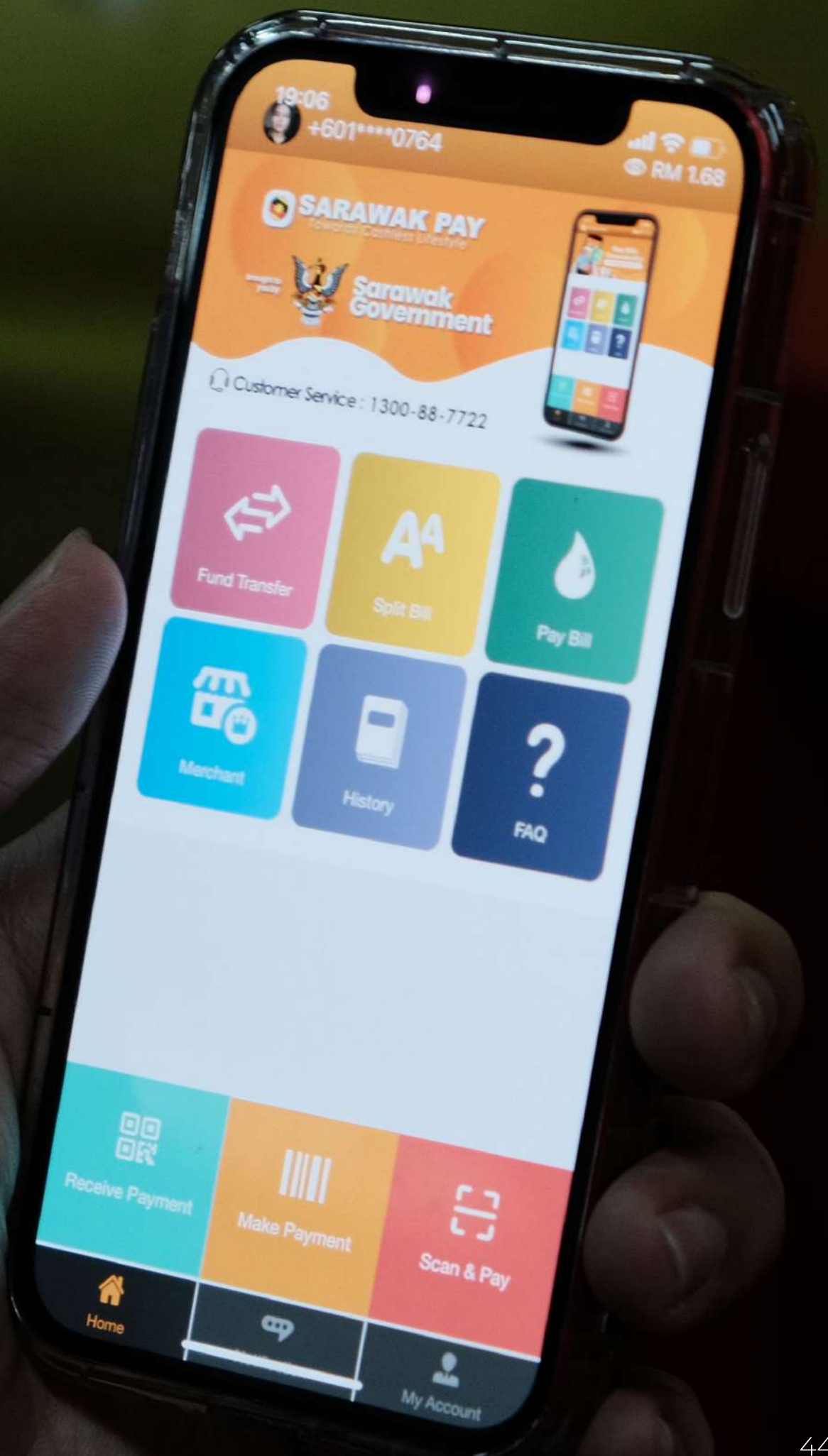
government, excellent service delivery and excellent digital governance. Some example initiatives include the Innovative and Creativities Circles, Key Focus Activity (KFA), High Performance Team Solutions, and utilising the Executive Information System (EIS)/Business Intelligence (BI).

Economic Sector 8

Social Sectors

Digital technology can also be applied to improve Sarawakians' social well-being, and to preserve Sarawak's culture and heritage. Action 27 utilises this for the sports sector, by rolling out smart digital technology to enhance spectator experience and attendance at the stadium as well as to foster the fields of game development, eSports, marketing and sport

science. The arts & culture sector is tackled in Action 28, by preserving the value of Sarawak's heritage and culture physically and digitally to enhance tourism in the state. This will be done via digitising physical records, the Old Kuching Smart Heritage (OKSHe) initiative and utilising AR/VR applications to recreate physical heritage and cultural experiences.



2

Enablers for Sarawak Digital Economy

The Sarawak digital vision is a holistic plan to redefine and reinvigorate the state's economy to become one that is independent and self-sustaining. This new independent and self-sustaining economy—the Sarawak digital economy—outlined some key enablers to ensure its success.

Digital Economy Enabler 1

Digital Infrastructure

Sarawak has begun putting various digital infrastructure in place with the aim to increase the broadband coverage and upgrade its speed and reliability, to optimise the utilisation of existing and new tele-communication and network infrastructure and to achieve higher investment in-flow in digital businesses.

Action 30 entails the development of infrastructure in a more cost-effective way using the Hub and Spoke development concept in all towns in Sarawak by the end of 2020, whereas Action 31 is to develop an international internet gateway in Sarawak and a new submarine cable system that connects directly to international internet gateway.

On the other hand, Action 32 involves the liberalisation of the infrastructure sector to attract foreign digital businesses to set-up their operation in Sarawak. This may be done by allowing more service providers, data centres and server farms into the state, as well as reducing the price of internet access to attract volume. The provision of affordable and high-speed internet access for the masses through carrier-independent backhaul and backbone data transmission services is tackled in Action 33. Existing dark fibres may be utilised for both public and commercial connections, in order to increase the users' speed to 100Mbps in populated and strategic areas and 20-50Mbps in rural areas.



Digital Economy Enabler 2

Digital Skills & Talent Development

These actions are aimed at developing human resource for Sarawak's Digital Economy and enhancing the State's education system and infrastructure—especially in STEM—by developing students' interests and capacities from a very young age. Action 34 would be to build, develop and headhunt a workforce that is agile, digital-savvy and industry-ready via workplace planning and training, scholarships, industrial attachments, recognized or accredited online courses as

well as attracting talents to Sarawak via collaborative training labs. Action 35 builds upon the previous action by strengthening current STEM and ICT education in primary, secondary and tertiary institutions within the state. Some of the various initiatives that fall under this specific action include upgrading facilities, training teachers, recruiting more post-Form Five students into pursuing TVET courses.

Digital Economy Enabler 3

Digital Economy Research & Development

With the aim of developing and congregating knowledge and research capabilities to support Sarawak's digital economy, Action 36 is to establish a Centre of Excellence (CoE) to engage in fundamental and translational research in core areas of digital economy in

partnership with universities, industry, other governments and the community. Possible areas of research include big data and data analytics, software systems, IoT, visualisation and cyber-security.



Digital Economy Enabler 4

Digital Innovation & Entrepreneurship

The following 4 actions inculcate a culture of innovation, increase the number of successful technopreneurs and achieve continuous technology transfer and commercialisation.

These are also meant to identify, protect, manage and sustain the Intellectual Property resources belonging to the State Government. Action 38 entails the establishment of one innovation centre in each division and the facilitation of others which include private sectors, universities and communities via initiatives such as mentoring, IP protection and collaboration. Meanwhile, Action 39

is to establish a Digital Village to facilitate technology transfer and commercialisation and accelerate the maturity of the start-ups through global accelerator partnership. Action 40 involves the establishment of “Launch Sarawak” Programme at the Digital Village to provide a transformative pathway to support innovation, intellectual property creation and spin-offs, whereas Action 41 tackles the setting up of “Digital Landing Pads” overseas to promote Sarawak as a destination for high tech innovation and entrepreneurship—similar to Silicon Valley or Shanghai—to encourage both domestic and foreign investment.

Digital Economy Enabler 5

Digital & Data

The intended objectives for the set of actions under this enabler is to use data analysis for better decision-making, and to both develop and use data as the state’s next “oil”. Action 41 involves the collection of data from current and future digital services to support data-driven decision-making, through data centres and the coordination of data standards as well as business intelligence services to support SMEs. On the other hand, Action 42 involves monetising big data by encouraging and

facilitating data sharing to develop innovative products and services. An example of this would be to integrate rainfall and weather data from DID with soil and crops data from DOA, economic data from SPU, L&S data for precision farming. The development of an Open Data Ecosystem within the state is addressed in Action 43, which includes the development of open data portal and applications, promoting data accountability as well as the launch of Government Big Data in April 2018.



Digital Economy Enabler 6

Cyber Security

The strategic actions under this particular enabler intend to increase both the awareness and knowledge among individuals and organisations on cyber-security, as well as to improve resilience against cyber-security threats. Action 44 is to develop a cyber-security code of practice to improve awareness about cyber-security, via education and awareness programmes on data security and privacy. Action 45, on the other hand, pertains to the creation of an

effective legal framework to tackle cyber risks in Sarawak. This may materialise in specific laws to protect digital economy players and facilitate the resolution of cyber disputes or frauds. The protection of the State's Critical Information Infrastructure (CII) is covered within Action 46, proposing the setting up of a Security Operation Centre and the management of cyber-attacks by a designated team of highly skilled cyber-security analysts.

Digital Economy Enabler 7

Digital Inclusivity

The final strategic action is aimed at enhancing the competency and readiness of all communities for the digital economy. To do so, Action 47 will establish a digital-ready community through developing digital skills and competencies and promoting inclusive digital participation. Among the programme examples which fall under this strategy are

trainings and awareness programmes on the use of ICT for education, business and entrepreneurship, the provision of local digital payment gateways such as Sarawak Pay in the absence of formal banking facilities and developing self-reliance with regards to digital technology via device-repairing exercises.



The image that came to mind when I came (to Sarawak) was that you have this huge booster rocket... This gigantic rocket (that is) waiting to take off.”

Michio Kaku

*International Digital
Economy Conference
Sarawak (IDECS) 2019*

The Sarawak Digital Economy Strategy 2018-2022 highlighted 47 Strategic Actions where it aims to instil the culture of innovation through increasing the number of successful technopreneurs, as well as spin-offs and start-ups to encourage continuous technology transfer and commercialization.

The effort will be led by the Sarawak Multimedia Authority (SMA) acting as a one-stop agency towards policy-making and expediting Digital Economy programmes and projects. 29 of the strategic actions come under 8 anchor sectors, supported by 18

other actions under 7 enablers sectors and 4 more under Digital Innovation and Entrepreneurship Enablers.

The four strategic actions; namely Action 37, Action 38, Action 39, and Action 40, were drafted for this purpose. The actions include establishing digital villages (DV), digital village facility development, digital innovation hubs, and supporting the private sectors. In other words, each action empowers the goal of digital innovation and entrepreneurship, which in turn enables the anchor sectors towards fulfilling Digital Sarawak.



ACTION #

FOCUS AND OBJECTIVES

Action
37

TO ESTABLISH ONE INNOVATION CENTRE IN EACH DIVISION AND FACILITATE OTHERS (PRIVATE SECTORS, UNIVERSITIES AND COMMUNITIES).

Action
38

ESTABLISH DIGITAL VILLAGE TO FACILITATE TECHNOLOGY TRANSFER AND COMMERCIALISATION AND ACCELERATE THE MATURITY OF THE START-UPS THROUGH GLOBAL ACCELERATOR PARTNERSHIP.

Action
39

ESTABLISH "LAUNCH SARAWAK" PROGRAMME AT DIGITAL VILLAGE TO PROVIDE A TRANSFORMATIVE PATHWAY TO SUPPORT INNOVATION, INTELLECTUAL PROPERTY CREATION AND SPIN-OFFS.

Action
40

SETUP "DIGITAL LANDING PADS" OVERSEAS TO PROMOTE SARAWAK AS A DESTINATION FOR HIGH TECH INNOVATION AND ENTREPRENEURSHIP LIKE SILICON VALLEY OR SHANGHAI. ETC. AND TO ENCOURAGE BOTH DOMESTIC AND FOREIGN INVESTMENT.



“I hope this is the first step towards a digital economy,” Chief Minister of Sarawak, Datuk Patinggi Abang Zohari Tun Haji Openg said in an interview referencing the first digital hub in Sarawak during the launch of the TEGAS Digital Innovation Hub (TDIH) at Icom Square, Kuching on 28 August 2017. As reported by Borneo Post Online in 2019, the Digital Village was due for an early 2020 launch. Unfortunately, the COVID-19 pandemic threw a spanner in the works. However, the Datu Haji Len Talif Salleh, the Assistant Minister of Urban Planning, Land Administration and Environment and also the chairperson of the board of trustees of Tabung Ekonomi Gagasan Anak Sarawak (**TEGAS**)—the group tasked to complete the project—was optimistic that it could be completed by early 2021.

At the time of this writing, there are five established Digital Innovation Hubs in Sarawak; two in Kuching and one each in Miri, Bintulu and Sarikei. TDIH functions as affordable co-working spaces, centre for entrepreneurship education and venture acceleration programmes, access to grants and fundings, and access to Sarawak Digital Ecosystem network. It is where new startups are empowered, supported and able to

communicate with each other towards innovation.

There are four pillars that prop TDIHs; 1) Advocate; digital innovation and entrepreneurship to inspire students and aspiring entrepreneurs through outreach programmes, 2) Accelerate; the growth of early-stage startups and social enterprises via venture acceleration programmes, 3) Educate; aspiring and budding entrepreneurs via entrepreneurship education and exponential psychological tools, and 4) Collaborate; a Public-Private Partnership to build inclusive innovation entrepreneurship ecosystem.

To promote digital innovation and entrepreneurship through strategic collaboration and partnerships, **TEGAS** with its strategic partners have launched and developed #InnovateSarawak. Their strategic partners include Shell, Grab, FutureLab, EFXCO, All Aboard Young Leaders Centre, pitchIN, WatchTower & Friends Accelerator, TERAJU, Curtin University Malaysia, Youth Trust Foundation (myHarapan), Swinburne University of Technology Sarawak Campus, Universiti Putra Malaysia, Australian Trade and Investment Commission, iCube Innovation, to name a few.



Datu Haji Len Talif Salleh



TEGAS Digital Innovation Hub is our investment to produce high-growth startups for the digital village, and towards empowering young entrepreneurs in Sarawak.”

The TDIHs have supported 195 early-stage startups and social enterprises through various acceleration programmes since 2017 with a total of 780 participants (as of March 2021). The programmes are among others, **TEGAS** Pre-Accelerator Bootcamp, **TEGAS** Startup Lab (accelerator), **TEGAS** Social Impact Accelerator and Sarawak Shell LiveWIRE.

Among the success stories of these programmes are startups and social enterprises such as Ctrl D Studio, The Tuyang Initiative,

Trifold X, Miracolo, Borneo Digital, BeGO, HAUS Kuching, Worming Up, Brique Engineering Solutions, Jonita Enterprise, Timogah and many more. These programmes are the foundation towards realizing the digital ecosystem in Sarawak and works are being done to improve the facilities, programmes, accesses and more to support many more startups and social enterprises in Sarawak. As Datu Haji Len Talif Salleh puts it, “**TEGAS** Digital Innovation Hub is our investment to produce high-growth startups for the digital village, and towards empowering young entrepreneurs in Sarawak.”

A DIGITAL FAMILY

3

Mapping Sarawak's Ecosystem

Local Innovation and
Entrepreneurship Ecosystem
Builders

Sarawak Multimedia Authority (SMA)

Tabung Ekonomi Gagasan Anak
Sarawak (**TEGAS**)

Sarawak Digital Economy
Corporation (SDEC)

iCube

Serba Digital X

Sarawak Media Group (SMG)

CALIPHS

PLUX

MaGIC B744

Sarawak State Library

Centre of Technical Excellence
Sarawak (CENTEXS)

Summary





Photo by NASA



A DIGITAL FAMILY

3.0 Mapping Sarawak's Ecosystem

For observers familiar with the Sarawakian economy of recent decades, the Sarawak Digital Economy Strategy (SDES) 2018-2022 is a positive development. It is a progressive choice that was catalyzed by the arrival of the digital revolution earlier in the decade. The global shift towards digital ecosystems, along with the realization that the state needed more agency on its economy has inspired the state to undergo a path not too different from the one Tun Dr. Mahathir and his cabinet undertook 20 years prior. MSC Malaysia was a useful precedent that gave the state much needed confidence to embrace the digital revolution. A host of other global, state and city-based digital agendas around Asia Pacific such as the IDC Smart Cities Asia Pacific Awards (SCAPA) that was launched in 2014 also offered huge reassurance and inspiration.

The rapid and exponential progress in ICT especially since the turn of the millennium—in microprocessor technology and IoT (Internet of Things) coming in the shapes of smartphones and gadgets—have placed the world in our pockets and palms. The world around us took a digital form. Technology no longer means infrastructure and machines—they are now devices and applications 10 times faster and bigger than the personal computers and laptops that we only started using in the early 2000s for work and study.

Now they power our daily lives with every single click, swipe and tap.

This Digital Revolution that we are all in today began in earnest with the shift from mechanical and analogue electronic technology to digital electronics around the 1980s. The advent of digital computing and advanced communication technologies precipitated sweeping changes that marked the beginning of the Information Age. At its center was the mass production and widespread use of digital logic, MOSFETs (MOS transistors), and IC (integrated circuit) chips, resulting in derived technologies such as personal computers, microprocessors, digital cellular phones, and the Internet. This decade brought us CDs and the World Wide Web.

The 1990s was a largely multimedia phase, where most of these technologies made their way into not just into mass media and pop culture but also transforming traditional production and business techniques. CDs kicked off the digital storage race not just for media and entertainment but also businesses and organizations. As the personal computer and various office processing applications dominated the narrative and changed the landscape of our daily lives, the internet steadily laid the bedrock for the future



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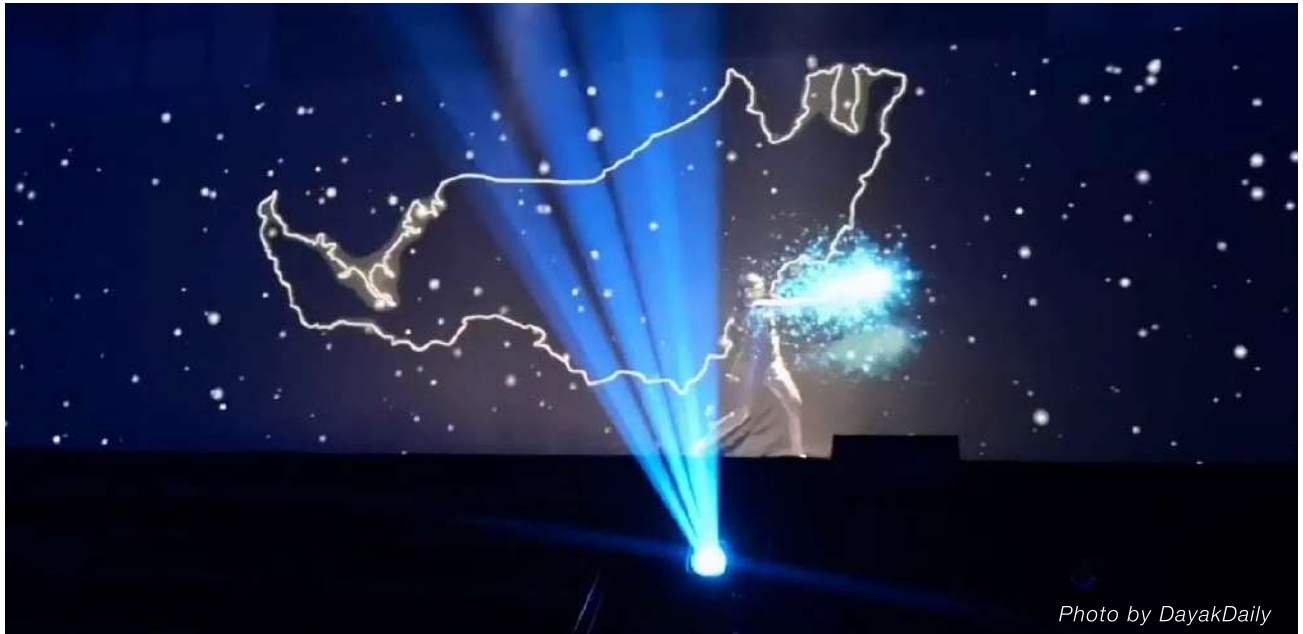


Photo by DayakDaily

present. As the World Wide Web became publicly accessible beyond governments and universities after 1991, corporations embraced with cautious optimism. 1994 saw Stanford Federal Credit Union become the first financial institution to offer online banking services, and by 1996 businesses were listing websites in their ads. By 1999, almost every country had a connection, and countries used the Internet on a regular basis as broadband connections became commercialized.

The 2000s was when the Information Age really came online. It was a decade that saw multimedia phones, social media and later smartphones and tablets take over our lives. Skype, Facebook, Youtube, the iPhone and iPad all made full use of the internet to bring the world onto one digital platform.

Coding became more sophisticated and came to the forefront, resulting in cutting edge usages such as apps, extensive algorithms and AI in everyday applications such as Google. This laid the groundwork for the 2010s. As industries and economies embraced this development and reinvented themselves to open their doors globally, the world slowly evolved into one big digital ecosystem characterized by hyperconnectivity and open technology, ushering in the Industrial Revolution 4.0 (IR4.0).

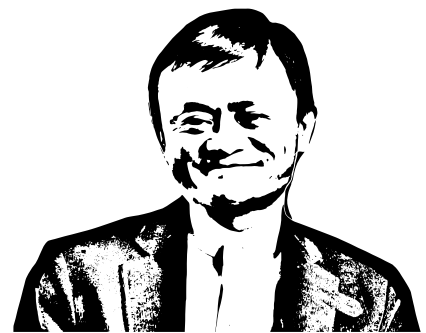
Digital ecosystems have changed how businesses perceive value chains and the economies of scale. It has changed how they define and create value, revolutionising markets, commerce and ultimately, economies and societies.

3

An introduction to digital ecosystems

“

Our philosophy is that we want to be an ecosystem. Our philosophy is to empower others to sell, empower others to service, making sure the other people are more powerful than us. With our technology, our innovation, our partners—10 million small business sellers—they can compete with Microsoft and IBM.”



Jack Ma

Chief Executive Officer of
Alibaba

The quote above was used by Omar Valdez-de-Leon in his paper “How to Develop a Digital Ecosystem: a Practical Framework” for the Technology Innovation Management Review in August 2019. It underlines the key philosophy behind digital ecosystems—access, agency, associations—and also its fundamental characteristics.¹

Throughout the modern industrial era before IR4.0, industries have been organised as linear value chains. These value chains created vertically integrated organisations and giants such as Petronas and Microsoft

designed to control their value chain in order to achieve optimal economies of scale, maximizing production and profits.

As digital technologies develop and gain wider adoption, new ways of organising how value is created are found. No longer industries and corporations feel the need to own their own value chains and production. Instead, they can leverage on the network granted by their ecosystem and find partners who can fulfill their production needs instead. The bigger their ecosystem, the more customizable and diverse their production can be, increasing

¹ Omar Valdez-de-Leon (August 2019). How to Develop a Digital Ecosystem: a Practical Framework. Technology Innovation Management Review. From <https://timreview.ca/article/1260>



their production quality and market. This is how new enterprises such as Apple and Alibaba attained market share, and eventually, dominance.

Digital ecosystems reduce transaction costs between independent parties. This means “buying” your product from a producer in your ecosystem is more practical than tying down internal partners-producers into your value chain to “make” those products for you. The cost of sourcing products or services through third parties are lowered; it is more practical and cost-efficient to work with external partners instead of trying to do everything in-house. A research by McKinsey estimated that companies applying a digital ecosystem have made more money than those who did not.²

Going back to Jack Ma’s quote above, a digital ecosystem is a network of interdependent contributor-partners who interact closely to create mutual value. Everyone shares the same interest and one will only be successful if the ecosystem succeeds. They are suppliers, distributors, manufacturers, marketing platforms, technology providers—a host of parties that affect and are affected by the collective creation and delivery of the ecosystem’s USP. As per Jacobides in 2019, digital ecosystems are “interacting organisations that are digitally

connected and enabled by modularity, and are not managed by a hierarchical authority”.³

Digital ecosystems are the future. The World Economic Forum estimated that “70% of new value created in the economy over the next decade will be based on digitally enabled platform business models.”⁴

The above is best exemplified by the proliferation of super brands and super apps and how they have profoundly reshaped local, regional and global economies. Amazon in America and Grab in Malaysia (and Southeast Asia) are brilliant examples. They use digital technology to augment how they deliver on existing demand, creating a new supply chain that eventually became an economic sector of its own. And then leveraging their extensive network along with their established brand and USP, they reshaped the market by flipping the traditional brick and mortar business model on its head.

Digital ecosystems are about collaboration over competition, integration over isolation and experience over exclusion. The larger they are the more they thrive, making room for more (local) businesses and enterprises to participate, providing customers with tailor-made and localized solutions that truly fit their lives.

^{2, 3} Omar Valdez-de-Leon (August 2019). *How to Develop a Digital Ecosystem: a Practical Framework*. *Technology Innovation Management Review*.
From <https://timreview.ca/article/1260>

⁴ World Economic Forum. *Shaping the Future of Digital Economy and New Value Creation*.
From <https://www.weforum.org/platforms/shaping-the-future-of-digital-economy-and-new-value-creation>



What makes an effective digital ecosystem?

According to McKinsey, there are 3 general strategies that companies are adopting as they consolidate their value chains into digital ecosystems.⁵ Regardless of how and when these companies adopt these strategies, they elevate top-line and bottom-line value-creation to deliver on their USPs. These strategies can be subsets of a greater digital ecosystem that serves a country's economy.

These strategies are to grow the (company's) core business, expand the (company's) network and portfolio and build an end-to-end solution. These strategies come with key value levers for the companies—improved revenues from core products and services, customer-paid new products and services, merchant-paid platform usage, third-party-paid data monetization and increased operational efficiency. These value levers are the KRIs to measure the success of the companies' evolution via digital ecosystems.

McKinsey elaborated further on the core capabilities that these companies require to create successful digital ecosystems.⁶ These capabilities are generally separated into two categories—universal capabilities and strategic capabilities. Universal capabilities are capabilities applicable for all 3 strategies, characterize core competencies and philosophies that any organization would

require to embrace the calling of the digital revolution. Strategic capabilities are capabilities that are unique to each of the 3 strategies above, highlighting specific skill sets, infrastructures, policies and demographics needed to implement each specific strategy.

The 2 universal capabilities underline the requirement for robust and resilient dynamism in the face of digital progress. They are advanced analytics, and agile development and operations. Advanced analytics highlight the need for effective and critical (big) data collation, processing and analysis to make sense of the market and world the company is operating in. Agile development and operations highlight the importance of being aware of market changes and being adaptable to them.

The 4 strategic capabilities each underline the unique challenges and requirements that come with each of the 3 strategies. Governance capabilities that allow for a portfolio of bets are meant to ensure companies who are looking to expand (their network and portfolio) or build an end-to-end solution can manage their growth via effective administration. A strong middle platform capability also helps these companies provide for a common, middle ground to bring their demographic together. Entrepreneurial talent

^{5, 6} M.Dietz, H.Khan, I.Rab (August 2020). How do companies create value from digital ecosystems? McKinsey Digital.
From <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/how-do-companies-create-value-from-digital-ecosystems>

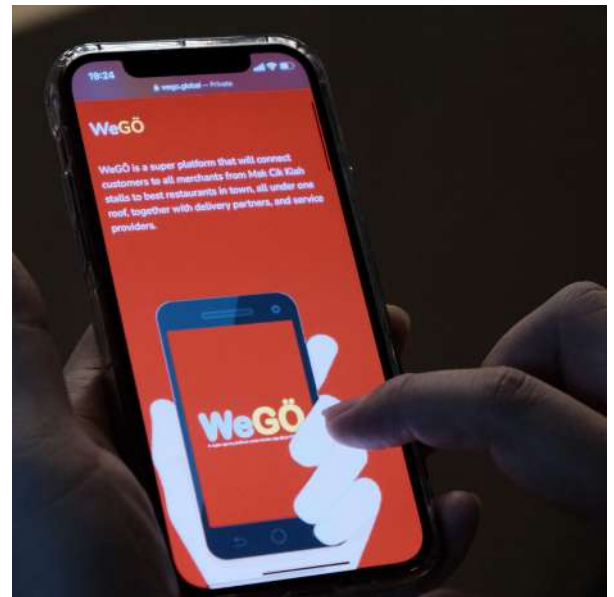


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is also a capability expected from companies who are looking to expand or build a (new) end-to-end solution. For companies looking to grow their core business(es), partnerships and relationship management is a key capability in helping them establish and expand their ecosystem to reach out to more new partners.

The Boston Consulting Group listed 5 digital ecosystem success factors—taking one's time, a strong user base, an extensive network of partners, a global footprint and a robust collaboration capability.⁷

Many digital ecosystems are also platform-based (businesses and services), so it is easy to mistake the rush of being the first (read: early) as a key difference-maker for success. But oftentimes these ecosystems fail to effectively identify the right product or service to offer to their target market, and in their haste to make progress, they may not have allowed the target market time to acclimatize to their offerings. Worse, they did not allow themselves time to learn more about their target market. A strong user base is important as it creates brand loyalty, a healthy focus group for effective market testing and not to mention a ready demand. A network of partners allows a greater span for options and



not to mention a ready demand. A network of partners allows a greater span for options and support to provide nuanced improvements and enhancements to the companies' offerings, not to mention the ability to scale up into new markets and opportunities. A global footprint allows for natural growth and progress, helping the companies grow to a new level. A robust collaboration capability can facilitate intrinsic growth and development as it provides a lot of space for individual agency without compromising on interdependency between ecosystem partners.

⁷ M. G. Jacobides, N. Lang, K. von Szcepaniski (June 2019). What Does a Successful Digital Ecosystem Look Like? Boston Consulting Group. From <https://www.bcg.com/en-sea/publications/2019/what-does-successful-digital-ecosystem-look-like>



What are the components of a digital ecosystem?

Omar Valdez-de-Leon lists 3 key components for an effective digital ecosystem—platform, network effects and market expectations—with a list of key enablers (APIs, flagship products/services, communities, revenue model, support functions, governance) to ensure success.⁸

The Platform is the key building block of the ecosystem; the bedrock on which the remaining 2 components are built on. It enables ecosystem partners to build their products or services. Crucial aspects of an effective platform include openness, modularity and quality. Openness means that the platform allows access to platform resources (via APIs, for example) enabling ecosystem participants to develop their own use cases. Modularity encourages complementary products or services. Quality means features that enable high availability, reliability, and security for ecosystem participants.

Network Effects is the self-perpetuating cycle of ecosystem participation and user enrolment.

More participants and products or services lead to more end-users. Digital ecosystems must be able to create the right incentives to support their participants and create more value. They must focus on two key dimensions—business and operational—to foster effective network effects. The former is how value is generated and shared amongst partners, while the latter refers to specific capabilities to support the rapid expansion of their digital ecosystem.

Market Expectation is how prospective users perceive the ecosystem's potential. A digital ecosystem must satisfy user concerns by building credible expectations for its future success. Organizations can accomplish this by setting up digital units and investing in platforms. They can launch flagship products/services to kick-start their ecosystems. Starting with a set of key partnerships in support of the ecosystem also helps build positive market expectation.

⁸ Omar Valdez-de-Leon (August 2019). *How to Develop a Digital Ecosystem: a Practical Framework*. *Technology Innovation Management Review*.
From <https://timreview.ca/article/1260>



Malaysian digital ecosystems



This is our aspiration for the country. As the Heart of Digital Asean, Malaysia will serve as a regional digital powerhouse launching global champions to lead the Fourth Industrial Revolution (Industry 4.0). We are committed to leading the country's digital economy by creating inclusive, high-quality growth through nationwide digitalisation initiatives that are aligned with the Shared Prosperity Vision 2030.”⁹

Surina Shukri

*Former Chief Executive Officer of
Malaysia Digital Economy
Corporation (MDEC)*

There are two ways to look at Malaysian digital ecosystems—top-down and bottom-up. The best top-down vantage point would be from the point of view of MDEC (Malaysia Digital Economy Corporation), while the bottom-up view should come from Grab, the prime example of Made-in-Malaysia digital innovation success story.

According to Rais and Chow Sang Hoe, consulting leader for Ernst & Young Asean and

consulting managing partner for Ernst & Young Advisory Services Sdn Bhd, the next step in Malaysia's digital transformation journey should pivot on a people-focused, value-based Industry 4.0. It should be one that ensures an equitable outcome through rakyat inclusiveness and economic resilience.¹⁰

The current state of Malaysian digital ecosystems from a top-down view is encapsulated by the “Malaysia 5.0” narrative,

⁹ Marketing Magazine (December 2020). MDEC CEO in World's 50 Most Influential Revolutionising Governance. From <https://marketingmagazine.com.my/mdec-ceo-surina-shukri-in-worlds-50-most-influential-revolutionising-governance/>

¹⁰ The Edge Malaysia (November 2020). The next step in Malaysia's digital transformation. From <https://www.theedgemarkets.com/content/advertise/next-step-malaysias-digital-transformation>



a human-centred society narrative that MDEC is poised to play a leading role in. Inspired by Japan's Society 5.0, its goal is to implement Industry 4.0 evenly across society so the benefits accrue to all, with no prejudice nor discrimination. This is not the first time we take inspiration from The Land of the Rising Sun, and this may seem like a facelift of the MSC Malaysia to the cynic, it is not quite so. Rather than coming in the form of an idealistic vision from the mind of the country's leaders, it is instead an agenda that has been collectively conceived by the best and foremost digital minds of the country.

Malaysia 5.0 addresses digital accessibility, financial inclusion, productivity and growth through the tools of Industry 4.0 such as fintech, blockchain and artificial intelligence (AI). The idea is a more sustainable and circular economy that establishes a better living environment - more purposeful employments, upskilled labour force, better healthcare and education as well as smarter and greener cities.

The key players assisting MDEC in this Malaysia 5.0 pursuit are the National 4IR (Industry 4.0) and Digital Economy Council and the National Digital Infrastructure Plan (Jendela). This effort is backed by the Prihatin Stimulus package and the Penjana National Economic Recovery Plan. It includes the

formation of the National Technology and Innovation Sandbox, aimed to produce digitally skilled local talent via R&D, innovation and high-tech entrepreneurship capabilities. This is key to help empower the Malaysian SMEs, which make up 90% of Malaysian businesses. The sandbox complements existing efforts such as Digital Xccelerator (DX) Virtual Platform, 100GoDigital, SME Digital Accelerator, Smart Automation Grant, SME Digital Quickwins and eUsahawan that drives digital adoption amongst these SMEs.

These are examples that have come a long way since the days of Multimedia Super Corridor and MSC Malaysia. It is clear that Malaysia's digital agenda has taken off with ample political, institutional and economical support. While many can nitpick examples and make comparisons to other regional success stories as a means of criticism, by and large the country's efforts to build a digital society, ecosystem and economy has fulfilled reasonable expectations. The country is on its way to build its position as the "Heart of Digital ASEAN" by integrating digital technologies into all areas of its economy.

From a bottom-up perspective, Grab pretty much ticks all the boxes of a successful digital ecosystem. From its humble hackathon origins to its profoundly inspiring MyTeksi beginning, Grab's story was one of a digital

⁸ Omar Valdez-de-Leon (August 2019). *How to Develop a Digital Ecosystem: a Practical Framework*. *Technology Innovation Management Review*.
From <https://timreview.ca/article/1260>



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Photo by WeGo

fantasy that many had dreamt from the early days of the Multimedia Super Corridor.

Grab had established key partners to build its original core business in the right way, before leveraging on its position as the premier local ride-hailing service to eventually win its battle with Uber, spreading out to neighbouring ASEAN countries in a synergistic manner. From there it grew to another unprecedented level by building a host of other services that leverages its core business, becoming the

country's first super app offering food, mart, delivery and other services on top of its ride-hailing services. Grab's digital ecosystem is a fine local example of an ecosystem by the measures described in the previous 2 sections. It successfully developed its core business, before expanding its network and portfolio to build an unique end-to-end solution to the present and future Malaysian digital lifestyle.

The current focus of Malaysian digital ecosystems is e-commerce. With record numbers on e-commerce platforms such as Shopee and Lazada even during the COVID-19 induced Movement Control Order (MCO) in 2020, a further growth of 20% in e-commerce contribution to the digital economy is expected. Supplementary financial support from the SME Digitalisation Matching Grant and the SME Technology Transformation Fund has also helped make the e-commerce space more vibrant by helping digitalise bricks-and-mortar SMEs. The numbers are not out yet, but e-commerce activities are quietly anticipated to have contributed about RM170 billion to the economy in 2020.

3

How Sarawak is building its ecosystem?



The Sarawak digital ecosystem story is one that is still finding its feet. At the time of writing, it has just entered its 4th year (2021) in its 5-year strategy. The Sarawak Digital Economy Strategy (SDES) 2018-2022 has seen profound fundamental progress despite its infancy, and this is testament to its clear vision and framework. More importantly, the SDES has been able to fulfill all its expectations up to this point due to its strong bottom-up approach—by focusing on building and bridging local communities, while adopting a focused localized approach to help develop awareness, talents and infrastructure for a lasting digital legacy.

This communal spirit and approach is evident

in how the local innovation and entrepreneurship ecosystem builders were brought together. A digital family made up of various strategic parties with specific roles across various levels—politically, governmentally and within the community—were identified and instituted effectively. Teething issues such as infrastructure, access and reception were unsurprisingly present, but in spite of these challenges, the growth and appetite amongst local Sarawakians have increased manifold in just 3 short years (including the lockdown-filled 2020).

This chapter will present this digital family, and share their stories.

⁸ Omar Valdez-de-Leon (August 2019). *How to Develop a Digital Ecosystem: a Practical Framework*. *Technology Innovation Management Review*.
From <https://timreview.ca/article/1260>





3.1 Local Innovation and Entrepreneurship Ecosystem Builders

The concept of a digital ecosystem came about at the turn of the millennium. When modelling the development and adoption of ICT technologies, products and services in European markets in 2002, European researchers and practitioners applied the notion in reference to natural ecosystems.

A natural ecosystem is a community of (living) organisms that live in and interact with each other in a specific and self-sustaining environment. Thus, a digital ecosystem is a group of resources interconnected by ICT technologies to function as a unit and serve its members and participants. It is made up of creators, suppliers, customers, businesses and enterprises, administrators, applications, third-party service providers, products, services and all other relevant technologies. In current times, it is often used to refer to markets, industries and economies who have embraced the digital revolution.

The reference to natural ecosystems when coming up with the concept a digital ecosystem is not mere sociolinguistics—the term underlines the very nature of synergistic interdependence between each unique entity that makes up the ecosystem. Digital ecosystems are informed by knowledge of natural ecosystems, especially for aspects related to competition and collaboration among the diverse entities within it. These relationships are profoundly organic. The mechanical and digital form that digital ecosystems take are simply a reflection of its technological origins. While these technologies may catalyze and shape these relationships, they are ultimately driven by the individuals using those technologies.

Very much like how the earliest builders of Sarawak's digital ecosystem and economy came together.



How Sarawak digital ecosystem builders came together?

The state's digital agenda came together organically. And it came from the very top, at the very start.

Like any Chief Minister, Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg had a vision to take his state to the next level into the future. And his vision was one of a digital economy. In an inspired moment during a speech he gave soon after he took office in 2017, Datuk Patinggi Abang Zohari declared that he wanted to build a digital hub for the state's startups and entrepreneurs in the form of a digital village. The declaration was made in such a passionate and earnest manner that became a talking point. At the time, the state's agenda was SCORE (Sarawak Corridor of Renewable Energy) and technical education. Datuk Patinggi Abang Zohari's wish for a digital village came to many as a positive thing—there was continuity; a clear progression from the economic focus on non-renewable natural resources in a way that embraced the digital times without abandoning its past.

The digital village was not an unrealistic notion for Sarawak. It struck a chord with a

generation of younger, smarter Sarawakians who had grown up in a hyperconnected online world. Many saw it as the first moments of a Sarawak startup future, one that embraced innovation and entrepreneurship. From there the digital village idea took a life of its own, morphing into a campaign of sorts that attracted the attention of budding local coders and developers, entrepreneurs and startups. The local independent startup community now had a target and something to look forward to, and hype began to build. Before long, this campaign gained momentum with support from the local business and education community.

Much like how it started, this new digital economy agenda rallied support organically from almost everyone - industries, the private sector, the public. Most crucially, it generated a huge support from the education community—schools, academics and universities, who saw the agenda as a realistic and relevant way to finally empower the Sarawakian youths locally so that they won't have to migrate to West Malaysia to earn a higher and more meaningful income.



Sarawak's first digital steps

While the Sarawak digital economy agenda evolved organically from top-down, its first building blocks to its digital ecosystem also came together organically, from the bottom-up. As a matter of fact, the state's first digital steps came from the education sector, focusing on Sarawakian youths. Instead of being championed by someone from the independent startup community at the time or an initiative by someone from the private sector, Sarawak's first digital steps came in the form of a state-funded charitable trust that focused on promoting innovation and entrepreneurship, known as Tabung Ekonomi Gagasan Anak Sarawak (**TEGAS**).

TEGAS, which was established in 2012 to promote education and commerce, is governed by the Board of Trustees, chaired by The Honourable Datuk Haji Len Talif Salleh, Assistant Minister of Urban Planning, Land Administration and Environment. It was a strategic human capital effort by the Sarawak government to fulfil the workforce expectation for SCORE. While SCORE was a good initiative to shift to a renewable energy based economy without impacting the state's existing economic dependence on its non-renewable resources, it is ultimately a long term project—its impact will only be seen by 2030. **TEGAS'** role in the meantime was to prepare for the incoming workforce requirement, working closely with the Workforce Development Unit in the Chief Minister's Department, along with Datu Len

Talif Salleh himself (he was the Assistant Minister in the Chief Minister's Office at the time, handling the Promotion of Technical Education). Its objective was to create 50,000 degree holders, 50,000 diploma holders, and 250,000 specially skilled workers to serve as SCORE's workforce. Their target demographic to fulfill this objective are 16-45 year old Sarawakians who missed out on the school-based education system, and also school leavers.

One thing about **TEGAS** that is overlooked by many is that its creation was in line with SCORE. At the time of its formation, Sarawak was hugely lagging behind in STEM. Many of the expertise in the state's more technical industries and economic sectors were driven by non-locals, with locals contributing the majority of the labour force. The state saw an imbalance in its education system, with 80% of its youths opting for arts and humanities while only 20% preferring the sciences. This was underlined in an article titled "**TEGAS** for Sarawak students" in The Star on 11 October 2013, which mentioned how the state struggled to fulfill the 1,000 scholarships quota for East Malaysia at the time. 30 scholarships for outstanding Sarawakian students to further study in France, Germany, South Korea and Japan were usually not fulfilled. And even when there were applicants, such as in 2012, most of them were urban students. The educational disparity in Sarawak was influenced by geography and



socio-economics, and could not be resolved by the conventional one-size-fits-all federally-driven state-based education system.

This connection makes **TEGAS** the bridge between the previous state government's agenda of SCORE with the current state government's digital agenda of SDES. This ensures a continuity that is seldom seen in the state administration (not to mention the country) when implementing their plans. There is a natural synergy between the renewable energy focus of SCORE and the digital innovation focus of SDES; they are not mutually independent and exclusive. Science and technology is still at the core of both these agendas to drive the state's economy. At the heart of both is Sarawak youth and education.

And there were no other better candidate to play this crucial and critical role of helping the state build the groundwork of its digital future than **TEGAS**.

With its reach and scope that was well established in the preceding 5 years before the Sarawak Digital Economy Strategy (SDES) 2018-2020 was launched, **TEGAS** was in a unique position to inculcate the values and know-how of digital innovation and entrepreneurship for the state. Its status as a charitable trust meant that it was a distance

away from political and administrative bureaucracy, operating like an entity from the private sector. It being state-funded meant that the state is still ultimately behind it, and that it will have a steady—if finite—resources to fulfill its objectives. This gave it a unique appeal to its target audience, convincing the many participants it had reach out to and made contact with that this wave of digital innovation and entrepreneurship is earnest and sincere, spearheaded by the right people from the startup and innovation field doing fundamental formal and informal educational initiatives to help bridge the digital gap all across Sarawak. This approach was different from the many government-led efforts for the youth of yesteryears; it was fresh and full of passionate optimism, one that reflected the hearts of the very youths that holds the torch for the Sarawakian future.

TEGAS' efforts in innovation leading up to the Sarawak Digital Economy Strategy (SDES) 2018-2022 were STEM playgrounds and maker fairs. These were entry-level events targeted at adolescents and teenagers. However at the time there was no framework nor ecosystem in place; participants of these events could not follow up on their interests aside from furthering their studies. At most, there were only independent startup communities based in Kuching, who had to migrate to Kuala Lumpur to pursue their startup and entrepreneurship dreams.

3

When the idea of a digital hub was mooted by Datuk Patinggi Abang Zohari in 2017, **TEGAS'** unique blend of experience and reach made them the perfect candidate to help the state build their first digital hub. **TEGAS** correctly identified the lack of large ready local markets to spur the startups, and instead chose to focus on building a hub that could create communities of startup talents first. These communities would eventually create locally based startups to serve the niche local markets, and when the time is right, look to scale up and expand. They received support and assistance from the public and private sectors that shared the same goal in building an inclusive startup ecosystem.

In a series of wise moves, **TEGAS** positioned themselves as a startup and social entrepreneurship ecosystem builder. Then after the Sarawak Digital Economy Strategy (SDES) 2018-2022 was tabled, **TEGAS** pushed for the creation of digital innovation hubs first before eventually building the digital village. This particular push was key - **TEGAS**, via its programmes and initiatives, would create touch points for the Sarawakian youth. Then, these youths could enter the digital hubs to get a taste of the startup challenge and prepare themselves, before being funnelled into the digital village to become scaleups. This digital hub was key in helping

shape the Sarawakian digital ecosystem. It was something that can be replicated across the state at a fraction of the digital village's cost, while complementing the digital village. With these hubs, the digital village can have a more focused and specialized role in creating a new generation of Sarawakian scaleups and innovators, ones who will not feel the need to leave the state for new opportunities as the digital village will empower them to use their talents and products to help improve the state's economy.

This push for digital hub creation was recognized by the state, and the Chief Minister's office allocated infrastructure funds to help **TEGAS** build the first digital innovation hub in the state. Following its success, the concept of digital hubs were implemented across the state, constructing the base for the **TEGAS** Digital Village to assume its leading role in building the Sarawak digital ecosystem and digital economy. It also helped give the state a clearer understanding of their future digital innovation and entrepreneurship landscape, which resulted in a more structured framework to execute on their digital vision via the institution and incorporation of the Sarawak Multimedia Authority (SMA) and Sarawak Digital Economy Corporation (SDEC) respectively.



3.2 Sarawak Multimedia Authority (SMA)



We aim to move from electrical power to cyber power to brain power and to become a digital economy powerhouse.”

During the first IDECS in 2017 ¹¹

***Datuk Patinggi Abang
Zohari Tun Openg***

Initially announced during the first International ICT Infrastructure and Digital Economy Conference Sarawak (IDECS) 2017, the idea of Sarawak Multimedia Authority or SMA quickly proved to be popular as the SMA Bill 2017 was promptly passed in the 18th Sarawak state legislative assembly. Chief Minister Datuk Patinggi Abang Zohari Tun Openg envisions transforming Sarawak by introducing a digital economy towards the future of all Sarawakian. By March 2018, SMA was fully realized with Sarawak Digital Economy Strategy 2018-2022 blueprint crafted.

SMA is chaired by the Chief Minister while membered by eleven other honourable associates, Ex-Officio Members YB Datuk Amar Jaul Samion, YBhg Tuan Saferi bin Ali

and YBhg Datu Dr. Wan Lizozman bin Wan Omar, along with members YB Datuk Amar Douglas Uggah Embas, YBhg Datuk Patinggi Tan Sri Dr. George Chan Hong Nam, YB Dato Sri Dr. Stephen Rundi Anak Utom, YB Tan Sri Datuk Amar Haji Mohamad Morshidi Bin Abdul Ghani, YBhg Datu Dr. Sabariah Putit, YBhg Datuk (Dr.) Philip Ting Ding Ing, YBhg Prof. Jugdutt (Jack) Singh complemented by Secretary, YBrs Dr. Zaidi bin Razak.

SMA is first and foremost a regulatory body that manages and facilitates the development and operation of the state's communication, multimedia and digital economy initiatives. It acts as a one-stop agency that provides policies and facilitates Digital Economy programmes and projects. The Sarawak Digital Economy Corporation (SDEC) was

¹¹ Karamjit Singh. (April 9, 2017). Week in Review: All eyes will be on Sarawak as it stakes digital economy ambitions. Digital News Asia. From <https://www.digitalnewsasia.com/insights/week-review-all-eyes-will-be-sarawak-it-stakes-digital-economy-ambitions>

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incorporated by SMA to run as a government-owned agency to implement the development of communications and multimedia

activities in the state. It is through SDEC that SMA will implement its visions and missions of establishing Digital Economy in Sarawak.





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SMA aspires to empower the state's economic growth through knowledge, innovation, and digital technology while aiming to accelerate economic growth, reduce socio-economic divide, and increase youth employment. The ideation of Digital Economy will seep through all forms of industry in Sarawak, including agriculture, manufacturing, tourism, and so on. With smart governance and digital infrastructure in place to develop talents towards research and development (R&D), and in turn creating an ecosystem of technology transfer innovation and commercialization, which loops back towards benefitting aforementioned industries.

Since the introduction of SMA, the Sarawak Digital Economy flourished with large projects such as the Digital Village, five different Digital Innovation Hubs, annual planning of IDECS,

improving 4G broadband all over the state, to the smaller but crucial efforts from Sarawak Pay, QR-coded wristbands for the 2020 pandemic tracking, and many more. It is not a stretch to claim that the Sarawak Digital Economy Strategy 2018-2022 blueprint is going along without a hitch by the policies and fast decision-making by SMA in ensuring everything will be smooth from the top.

“We have to match the aspirations of our young people. We must leave a legacy for them and enable them to embrace global economic growth... To do this, we have no option but to embrace technology to develop the state and give a better future to Sarawakians,” said the Chief Minister in a recent report by DayakDaily.¹² It shows the seriousness from the top in transforming Sarawak through Digital Economy.

¹² DayakDaily. (May 25, 2020). *Building digital Sarawak: The only way forward*. DayakDaily. Retrieved from <https://dayakdaily.com/digitalising-sarawaks-future/>



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Photo by Sarawak Media Authority (SMA)



3.3 Tabung Ekonomi Gagasan Anak Sarawak (**TEGAS**)

Tabung Ekonomi Gagasan Anak Sarawak, or **TEGAS's** initial establishment in February 2012 was a platform to promote Technical Education and Vocational Training (TVET), STEM and entrepreneurship amongst Sarawakian youths, particularly those in rural areas. **TEGAS'** predominant focus was to change the perception regarding technical and vocational studies within the bumiputera community, as well as generating quality human resource development in line with Sarawak Corridor of Renewable Energy, or SCORE. Its then-target group included those of ages of 16 and 45 with basic literacy and numeracy abilities, school-leavers, graduate dropouts and talented students who are still in school.¹³

However, **TEGAS** has since enhanced its focus towards promoting digital innovation and entrepreneurship instead, which was one of the strategic enablers outlined in the Sarawak Digital Economy Strategy 2018–2025. Additionally, **TEGAS'** other aims are to foster strategic partnership and ecosystem synergy, as well as to catalyse talent development and community empowerment. It is governed by an 11-member Board of Trustees headed by Chairman YB Datu Haji Len Talif Salleh, who is Sarawak's incumbent

Assistant Minister of Urban Planning, Land Administration & Environment. He is supported by Deputy Chairman YB Datuk Dr. Jerip Anak Susil, Secretary YB Datuk Abdullah bin Saidol, Treasurer YB Datuk Snowdan Lawan and board members YB Dr. Hazland bin Abang Hipni, YB Encik Abdul Yakub bin Haji Arbi, YB Encik Dennis Ngau, YB Encik Mohammad Razi bin Sitam, YB Encik Jefferson Jamit Unyat, YB Dato Gerald Rentap Jabu and YB Encik Paulus AK Gumbang. **TEGAS'** daily operations and management falls under the purview of a senior management team led by Chief Operating Officer, Awangku Merali Pengiran Mohamed.¹⁴

Among **TEGAS'** many initiatives which focus on digital innovation include the Sarawak Career and Training (SCAT) Fair, STEM Playground, Project of Dream Realized (PRO-DR) Roadshow, Innovate Sarawak Design Challenge and Forum Belia **TEGAS** (FBT). The SCAT Fair is an annual, one-stop fair which seeks to enhance marketability of the younger generation by providing opportunities for education, training, employment and financial assistance. It has been jointly organised by **TEGAS** with the state's Ministry of Education, Science and Technological Research since 2012.¹⁵

¹³ MStar, 'Tegas Akan Bantu Anak Bumiputera Rebut Peluang Kerja Dalam SCORE - Taib Mahmud,' <https://www.mstar.com.my/lokal/semasa/2012/02/28/tegas-akan-bantu-anak-bumiputera-rebut-peluang-kerja-dalam-score--taib-mahmud>

¹⁴ 'What is TEGAS?', Tabung Ekonomi Gagasan Anak Sarawak <https://www.tegas.org.my/what-is-tegas/>

¹⁵ 'What is SCAT Fair?', Tabung Ekonomi Gagasan Anak Sarawak <https://www.tegas.org.my/scat-fair/>



Meanwhile, STEM Playground has grown into an event of its own after starting as one of the activities held during the SCAT fair. First held in 2017, it is an interactive family friendly exhibition aiming to cultivate interest in Science, Technology, Engineering and Mathematics (STEM) amongst students.¹⁶

The PRO-DR Roadshow gathers together a combined 40 institutions of higher learning, TVET providers and financial aids agencies into a mobile roadshow which travels to each district in Sarawak. It is primarily aimed at school-leavers in rural areas outside Kuching, by providing them the opportunity to acquire detailed information on training and education opportunities available in the state.¹⁷ On the other hand, the Innovate Sarawak Design Challenge is an offshoot competition by the state's regional Innovate Malaysia branch. Aiming to develop well-balanced graduates, the competition is designed to provide participants with real-life problems, as well as access to both industry tools and mentorship.¹⁸ Forum Belia **TEGAS** is a series of youth-centric forums held across Sarawak, organised to gather input from Sarawakian

youths as well as acting as a platform to update them on the latest State agenda. These forums cover varying topics relevant to Sarawak's current development agenda, including the digital economy.¹⁹

TEGAS' entrepreneurship-centric initiative is its **TEGAS** Digital Innovation Hubs (TDIH), which are intended as platforms to support and empower Sarawak's many early-stage startups and social enterprises. Managed by **TEGAS** with funding from the Sarawak government, these DIHs provide startups and social enterprises with access to co-working spaces, entrepreneurship education, venture acceleration programmes and access to the Sarawak Digital Ecosystem network. Among the key programmes held at TDIH are the **TEGAS** Pre-Accelerator Bootcamp, the **TEGAS** Startup Lab Accelerator, Sarawak Shell Livewire and Social Impact Accelerator (SIA). Kuching's first **TEGAS** Digital Innovation Hub in iCom Square was launched in August 2017. The other two TDIHs operated by **TEGAS** are located in Bintulu and Miri respectively.²⁰

¹⁶ 'What is STEM Playground?', Tabung Ekonomi Gagasan Anak Sarawak <https://www.tegas.org.my/stem-playground/>

¹⁷ 'What is PRO-DR Roadshow?' Tabung Ekonomi Gagasan Anak Sarawak <https://www.tegas.org.my/pro-dr-roadshow/>

¹⁸ 'What is Innovate Sarawak Design Challenge?' Tabung Ekonomi Gagasan Anak Sarawak <https://www.tegas.org.my/innovate-sarawak-design-challenge/>

¹⁹ 'What is FBT?', Tabung Ekonomi Gagasan Anak Muda Sarawak, <https://www.tegas.org.my/forum-belia-tegas/>

²⁰ SMA-TEGAS Digital Innovation Hub, <https://www.innovatesarawak.com/>



3.4 Sarawak Digital Economy Corporation (SDEC)



To ensure that the Sarawak Digital Economy is developed in a wholesome manner, we will have a clear roadmap with specific timeline and a dedicated agency to implement it – such as a new Sarawak Digital Economy Corporation to integrate the physical and virtual worlds.”

***Datuk Patinggi Abang
Zohari Tun Openg***

*Chief Minister of Sarawak
~ the first IDECS in 2017*

The above was an excerpt from the Right Honorable Chief Minister of Sarawak's Opening Address for the first International ICT Infrastructure and Digital Economy Conference Sarawak (IDECS) that was held on the 3rd and 4th April 2017. It came at the very end of the address, after the Chief Minister spoke about the state catching up on the Digital Economy and leapfrogging the state into a new age of progress and prosperity. He announced significant initiatives and policy decisions to help Sarawak transition into a

digital economy, and he capped off all that by announcing the Sarawak Digital Economy Corporation (SDEC) as the agency to drive the Sarawak digital economy by implementing all these digital agenda initiatives. SDEC was duly incorporated on 22nd January 2018 and finally operationalised in July 2020 as a company wholly-owned by the Sarawak Government through State Financial Secretary Inc. under the Ministry of Finance and Economic Planning.



Functionally, SDEC is essentially Sarawak's own version of MDEC (Malaysian Digital Economy Corporation). Its mandate is economic prosperity via digitalization, and it accomplishes this by synergizing its efforts with all its stakeholders towards a data-driven future, developing and commercializing new ideas through translational research in digital technology, empowering and enhancing the Sarawak private sector to help the state achieve its digital economy GDP target and eventually catalyzing an inclusive innovation ecosystem. This GDP target is to double its current GDP to 8% by 2030 by focusing on building tech talents and digitalizing small businesses, according to its CEO Sudarnoto Osman.

The Sarawak digital community centres are their pride and joy. Sudarnoto and team envisioned a Sarawak with at least 1 in every district to help them pursue their mission to digitalize Sarawak, and despite its young 2-year history, SDEC has already hit the halfway mark with 20 centres across the state's 40 districts. These centres serve as the first touch point for the public, and while its reach to the less enfranchised rural Sarawakian public is a key contribution, they also serve as a funnel for passionate local talents by promoting them to the state's

digital innovation hubs for further support and development. While the digital community centres teach the general public introductory courses such as how to use office applications and social media basics, the digital innovation hubs are more specific and focused, teaching local community and startups skills to help refine and develop themselves, such as social media marketing and video editing.

The digital innovation hubs then move highly promising talents (and ideas) further to join the Sarawak Digital Village community where they knowledge-share not just among the best of locals, but also foreigners who happen to either be based in the state or are brought in strategically.

This bottom-up 3-tiered framework is a well-conceived and highly executable approach given Sarawak's geographical profile. It is also a structure that mirrors its indigenous communities, allowing for higher reach and retention due to how adaptive and nuanced each digital community centre and digital innovation hub can be. This creates a multilayered Sarawakian network and community of digital practitioners, one that is fluid vertically for growth and development and wide laterally for implementation, testing



and outreach. This lateral potential is crucial for local startups and small businesses, offering them reach to new markets to help them sustain and evolve.

Aside from the above, SDEC also subsidises the cost of IT services and distributes research grants to small businesses. They are also planning to roll out SME Digitise packages to support the digitisation of SMEs up to two years on their entrepreneurial journey. They also have a Centre of Excellence with multiple testbeds to test emerging technologies such as 5G (their first 5G testbed went online in August 2020) and IoT. These platforms simulate how the application might be used, allowing SDEC to tweak and refine them before commercial rollout. SDEC are collaborating with Xperanti Solutions, a Malaysian tech provider, to set up the first IoT testbed in the state.

As the state's official governmental arm to execute on Sarawak Digital Economy Strategy (SDES) 2018-2022, SDEC has had an inspired start and offers a lot of promise. It has signed MoUs with Merdeka Waterfront Hotel Sdn Bhd (to develop an integrated digital hotel management system) and with ARX Media Sdn Bhd (to collaborate on software development for check-in application via facial recognition methods) recently despite the pandemic and lockdown.

A champion in developing digital talent pipeline in Sarawak, SDEC is proudly leading Sarawak Digital Upskilling initiative in a way that underlines their commitment to fulfill on their shared values—inclusivity, trust and support, shared and amplified success.



3.5 iCube

Describing itself as an ‘incubation and innovation centre for Sarawak entrepreneurs’, iCube is the state’s first and remains its largest privately initiated co-working space. It was also the first ICT-facilitated company in the state to be awarded the MSC Malaysia Incubator Status from the Government of Malaysia through Multimedia Development Corporation (MDeC), which is the national ICT custodian in charge of Malaysia’s Multimedia Super Corridor (MSC) project.²¹ Founded by Datuk Patrick CJ Liew, iCube began operating with a 7,300 square feet area at iCom Square in Pending, Kuching at the time of its official launch in August 2015. Its recent expansion (known as ‘The Space’) at the same location in 2019 has since expanded their total operating area to 12,000 square feet.²² Aside from providing fully-furnished co-working facilities with an array of business-related services, iCube regularly holds various training programmes and workshops with industry experts on topics such as entrepreneurship grooming and e-commerce development. Additionally, it also partners with Sarawak Multimedia Authority (SMA) to run the SMA-Sarikei Innovation Centre in Sarikei.²³

Prior to iCube’s founding, Datuk Patrick himself has been spearheading the youth development platform, ‘OurYouth.my,’ since 2011. The portal was intended as a platform for government agencies, corporate sectors and non-governmental organizations (NGOs) to connect with the youth of Sarawak. The vision for OurYouth.my then was not only to maximise web-based technologies. It had also aimed to enhance Sarawakian youths’ creativity and innovation via social activities and events.

iCube’s mission is to provide entrepreneurs with mentoring, nurturing and leadership building, as well as a platform for co-incubation and collaboration with other entrepreneurs among a like-minded community. It also intends to create value-added Corporate Social Responsibilities (CSR) for more established entrepreneurs, and to bridge the gap between entrepreneurs, corporate/private sectors and government bodies. Additionally, iCube also aims to create a larger economic plan for Sarawak. Their decision to pursue the Sarawak Digital vision had much to do with their belief of grooming and developing fellow Sarawakian youths for

²¹ Digital News Asia, ‘MaGIC and iCube in pact to promote entrepreneurship in Sarawak,’ <https://www.digitalnewsasia.com/startups/magic-and-icube-in-pact-to-promote-entrepreneurship-in-sarawak#sthash.gu9MkSoN.dpuf>

²² The Borneo Post, ‘Head of State opens The Space at iCom Square,’ Borneo Post Online <https://www.theborneopost.com/2019/05/01/head-of-state-opens-the-space-at-icom-square/>

²³ Sharon Kong, ‘The rise of Kuching’s co-working spaces,’ Borneo Post Online <https://www.theborneopost.com/2019/04/14/the-rise-of-kuchings-coworking-spaces/>



the state's future generation. iCube's passion in aspiring to inspire, educate and groom these youths are informed by their belief in the raw, untapped potential of many Sarawakians.²⁴

iCube has been extremely proactive in fostering numerous collaborations with partners within both the local and international digital startup ecosystem since its inception. It formally signed an MoU with the Malaysian Global Innovation and Creative Centre (MaGIC) just months after its establishment in 2015, which appointed the space as the agency's regional community partner to promote entrepreneurship development within Sarawak. This meant that young entrepreneurs affiliated with MaGIC will now be able to access iCube's dynamic and fully furnished co-working space.²⁵ Additionally, iCube's partnership with Malaysia Digital Economy Corporation (MDEC) is a crucial part in their overall efforts to help build a sustainable ecosystem for the state's technopreneurs. Local varsities such as Universiti Malaysia Sarawak (UNIMAS), University College of Technology (UCTS), Technology College of Sarawak (TCS) have also partnered strategically with iCube.

iCube's international collaborative partners include e27, the Singapore-based media, event and product platform which focuses on Asia Pacific's emerging technology and business landscape and Bangkok-based co-working space Hubba.²⁶ iCube was among the many community partners selected to help push forward the e27 Academy programme in 2018 ²⁷ and signed an MoU with e27's parent company, Optimatic a year later as part of the latter's efforts to foster the region's entrepreneurial spirit. iCube was also the venue for the Sarawak stop of e27's TOP100 Qualifiers programme that made its way to Sarawakian shores in April 2019 and had featured notable Sarawakian entrepreneurs as speakers.

But the hurdles faced by iCube in helping to realise the Sarawak Digital vision were plenty, according to its current director Melvin Liew Yik Hung. It deemed community activation in multiple cities as necessary due to Sarawak's expansive geographical landscape. iCube's penetration of multiple cities were made possible due to the support of multiple agencies and private sectors, due to its own

²⁴ Written interview with Melvin Liew Yik Hung, Director of iCube Innovation.

²⁵ The Borneo Post, A 'Magic' touch for iCube Innovation', Borneo Post Online <https://www.theborneopost.com/2015/08/11/a-magic-touch-for-icube-innovation/>

²⁶ The Borneo Post, 'iCube, Hubba sign MoU on digital co-working passport,' Borneo Post Online <https://www.theborneopost.com/2019/07/25/icube-hubba-sign-mou-on-digital-co-working-passport/>

²⁷ '24 partners help e27 Academy build the next generation of Southeast Asian founders', e27 <https://e27.co/24-partners-helping-e27-academy-build-next-generation-southeast-asian-founders-20181025/>



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financial restrictions as a private sector outfit. This then allowed iCube to spark and create communities in those cities, which eventually grew organically. iCube had also needed to constantly adapt, Melvin explained, as they were the first few to build the Sarawak Digital ecosystem. “Research, testing and education have been part of our core value in strengthening our role in the ecosystem,” he elaborated. He also singled out the importance of forming teams and partners within and beyond Sarawak during iCube’s

early days: “...the team needed to travel to West Malaysia and other hubs to form alliances and partnership with other ecosystems or community builders, helping to boost Sarawak’s name as players in the community of start-ups,”

West Malaysia and other hubs to form alliances and partnership with other ecosystem or community builders, helping to boost Sarawak’s name as players in the community of start-ups,” ²⁸



3.6 Serba Digital X

Serba DigitalX or SDx is an Open Innovation Platform (OIP) initiated by Serba Dinamik Holdings Sdn. Bhd. led by their CEO, Datuk Dr. Ir. Mohd Karim Abdullah. Being a company of many hats, their IT-based subsidiary, Serba Dinamik IT Solutions opened the first virtual reality park in Malaysia, D-Virtual Park, in Kota Samarahan in 2020. This park also houses SDx projects such as the Fablab (the OIP) and Tech X Accelerator Studio (a co-working space). Besides that, the park includes a variety of integrated projects such as an Esports Arena and digital kiosks for local traders, D-Tamu. It is an all-in-one digital ecosystem right in the middle of Kota Samarahan.

The main feature of SDx is to provide access to state-of-the-art technologies in D-Virtual Park that works as a hub to inspire the digital community. It will act as a bridge that networks corporate ventures by adopting ground-breaking ideas and pioneering business models towards symbiotic connections between companies and startups. The mantra 'Fail Fast, Launch Fast' is the culture SDx is trying to promote so startups can continuously develop and grow their products through rapid prototyping and collaborations through open innovation.

In an online interview with Mohd Nuriqwan Zainal Abidin, SDx's Community Engagement Executive, he highlighted that one of the central ideation of this initiative is to become a hotspot for local talents and creatives. It is also to establish a working ecosystem with an emphasis on youth development in cultivating and boosting creativity and innovation. A true believer in this digital revolution, he stressed that the key in making or breaking all these efforts depends on the cashless revolution. Seeing the popularity of both Sarawak Pay (developed by SiliconNet Technologies Sdn Bhd) and Serba Dinamik IT Holding's own Quik Pay application shows that the digital revolution wheel is moving forward.

Serba Dinamik Holdings CEO, Datuk Dr. Ir. Mohd Karim Abdullah aspires to expand further the role of SDx in creating global entrepreneurs rivalling Silicon Valley and its ecosystem. As explained by him when interviewed by Suara Sarawak's Alvin Lawrence, "This is a platform that we feel will be able to develop the potential of each generation to express new and fresh ideas. Our opinion is that this development will create more successful global entrepreneurs as proven by the establishment of Silicon Valley in California." ²⁹

²⁹ Abdul Qaiyum Alidin. (June 28, 2020). Serba DigitalX. Visi di sebalik pertubuhan D-Virtual Park. Retrieved from <https://e-sdx.com/2020/06/28/visi-di-sebalik-pertubuhan-d-virtual-park/>



Currently, despite the 2020 pandemic crisis, D-Virtual Park is open to the public with precautions taken per standard operating procedure advised by the Health Ministry. SDx seems like a mix-and-match of many digital industries in a single hub. However, it also means they're one of the more active hubs

that not only there to support startups, virtual reality technology, e-sports talent development, but also educate and entertain the general mass. Their social media is full of regular updates with a variety of programmes organized from for startups to e-sports to webinars, and many more.

3.7 Sarawak Media Group (SMG)

Sarawak Media Group Sdn. Bhd. or SMG is the official media for all things Sarawak which was established as part of the aim to further the Digital Economy in Sarawak. It was established on 18 April 2018 to become the digital media pillar that goes beyond borders, creates jobs, expands creative content and prospering the creative industry in Sarawak. The group promises their work will always be at the highest level to deliver high production value while also being flexible, creative, innovative, with a strong foundation of interdisciplinary expertise.

It envisions to launch the state as a media hub in the region and fast-track the growth of the creative media industry while aiming to

provide a local platform for creative ideas, stories, and nurture talents. There is a goldmine of creative talents in Sarawak, and just recently SMG posted a pitching call for creative contents focusing on local stories from the public where 50% of the production house or company must be lead by Sarawakians.³⁰ The call includes both fictional and non-fiction contents such as serial dramas, telemovie, sitcoms, animation, documentary, reality TV, talk show and others. The core values show that SMG wants to create and produce significant contents that will promote all-things-good while also building for the future of the Sarawakian, and Malaysians as a whole.

³⁰ Astro Awani. (July 10, 2020). TV Sarawak mencari bakat baharu, serlah keunikan Bumi Kenyalang. Astro Awani. From <https://www.astroawani.com/berita-malaysia/tv-sarawak-mencari-bakat-baharu-serlah-keunikan-bumi-kenyalang-250601>

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3.8 CALIPHS



Photo by CALIPHS

With operating offices in both Sibu and Kuala Lumpur, Caliphs Technology (or CALIPHS) has over 10 years' worth of experience³¹ in web development, content creation, mobile application and software development. CALIPHS was originally established in 2014 by its founder, Abang Fairul Syarmil Abang Mohammad, but the company has only been active since 2019. He was previously one of the finalists for the 2014 edition of Bumiputera Entrepreneur Scheme (SUPERB) which was

organised by TERAJU under the Prime Minister's Department. The company's services include website development and system integration, online branding strategy, mobile web and application development, as well as operating system integration and software development. As of 2020, CALIPHS currently operates ten corporate websites and counts corporate entities such as Amanah Raya Berhad among its clients.³²

³¹ 'The History Behind Our Tech Company', Caliphs Technology.
From <https://caliphs.my/who-we-are/>

³² UMP News, 'UMP alumni builds the business empire of Caliphs Technology PLT' in 'Alumni'. UMP News.
From <http://news.ump.edu.my/alumni/ump-alumni-builds-business-empire-caliphs-technology-plt>



3.9 PLUX

Borneo Plux is a service-based, e-platform research & development, information analytics-focused corporation that helps transform traditional businesses digitally. By using new business models and platforms while also providing relevant IT services per their clients' needs. They also offer event planning services including housing a plethora of local brands and portals such as Sibu Deal, Go Sibu Magazine, Sarawak Kita, Borneo Voice, Deal TV, and Shang Group. Borneo Plux produces cost-effective and best-practice implementation of work in helping their clients applying new technology and capabilities to uplift their business impact, such as content operations, fintech analysis, event consultation, platform research, and website management. In other words, to help create a thriving digital ecosystem for clients based on their needs.

According to its Chief Marketing Officer, Sean Ru Hu Hiik, PLUX was first initiated by the Sibu Chinese Chamber of Commerce and Industry to help young entrepreneurs in Sibu to grow their businesses.³³ Since its launch in 2018, the state-funded co-working and events space has actively hosted a number of sharing sessions, workshops as well as a digital upskilling programme in collaboration with SMA and the Sarawak state's Ministry of Education, Science and Technological Research.³⁴

There's a strong education theme in PLUX's vision—Sean believes it is key that the state government continue creating more education-based events to discover and cultivate more talents for the future.

³³ Written interview with Sean Ru Hu Hiik

³⁴ PLUX Incubation Hub Facebook Page, <https://www.facebook.com/pluxhub>



3.10 MaGIC B744

Malaysian Global Innovation and Creativity Centre (MaGIC) Sarawak's campus cum co-working centre @ Borneo 744 (B744) was actually the government agency's first physical foray beyond the Klang Valley when it began operating in May 2017. Officially launched in August 2017, the Sarawak campus is a central part of MaGIC's wider outreach and engagement programmes to foster a vibrant entrepreneurship ecosystem nationwide.

Aiming to equip entrepreneurs with relevant skills and capabilities required to build their innovative solutions and promote creative thinking, MaGIC @ B744 is intended as a one-stop space for budding and existing entrepreneurs to work, learn, and play. Additionally, MaGIC Sarawak's physical presence in the state has enabled Sarawak entrepreneurs to benefit from its established network with local and global ecosystem players, in terms of easier partnership opportunities and wider market expansion.

Ehon Chan, a born-and-bred Sarawakian, notes how his involvement with B744 in his previous role as MaGIC's Executive Director of Social Entrepreneurship eventually led him

towards being a crucial part of the state's planning and development. MaGIC had predominantly focused on developing social entrepreneurs with regards to Sarawak³⁵, and Ehon himself has helped support the incubation and growth of at least 70 social enterprises in his previous role.³⁶

Ehon elaborates in an interview "...I was eventually appointed as an Advisor for Digital Economy in the Chief Minister's Department, and invited to be the one of the inaugural Board of Authority for Sarawak Multimedia Authority. I was also privileged to be part of many roundtables, planning, and drafting of the Sarawak Digital Economy Strategy," he replied, when asked of how he became involved with the state's digital economy plans.

Ehon acknowledges that change was a difficult aspect of realising the state's digital vision, particularly in regards to managing the stakeholders' various expectations, these challenges, he remarked, "...helped to bring stakeholders closer, stem out detractors, and aligned a diverse group of stakeholders towards a common agenda."³⁷

³⁵ The Borneo Post, 'MaGIC focusing on Sarawak for social entrepreneurship,' Borneo Post Online. From <https://www.theborneopost.com/2015/10/05/magic-focusing-on-sarawak-for-social-entrepreneurship/>

³⁶ 'The Gen.T List: Ehon Chan,' Generation T, <https://generationt.asia/people/ehon-chan>

³⁷ Written interview with Ehon Chan.



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Photo by MaGIC

The larger B744 township itself at Bintawa, Kuching was also the country's first Blue Ocean Entrepreneurs Township (BOET). The BOET initiative's primary aim was the creation of an ecosystem where start-ups and entrepreneurs would have access to a workspace, network, and guidance regardless

of the stages they were currently at. MaGIC @ B744's regular events schedule includes monthly pitching, knowledge sharing and coffee chat sessions, as well as mentoring and access to entrepreneurship development programmes.³⁸

38 'Co-working: Sarawak Campus Co-working Space,' MaGIC, <https://mymagic.my/facilities/sarawak-campus-co-working-space/>



3.11 Sarawak State Library

The Sarawak State Library is one of the most crucial state agencies in the effort towards a digital economy as it involves all things archiving and education. The library philosophy reads: "A knowledge and information-based society needs a forum for intellectual exchange among its people, a centre of enlightenment where minds can meet and ideas interact, and access to information, knowledge, technologies and cultures available beyond the superficial boundaries imposed by geography."

The state library first and foremost is a social institution that provides valuable access to knowledge for students, professionals, and regular people alike, as explained by their Deputy CEO (Operations), Japri Bujang Masli. Opened in 2020, Pustaka Negeri Sarawak in the Petra Jaya suburb of Kuching is the state's main library and archive centre, conceived as a major information resource centre and the hub of information services for the public and private sectors. It is linked with libraries, archives and information centres

elsewhere within the state and throughout Malaysia.³⁹ He added that the state library was one of the first agencies integrated into the digital ecosystem as they started this process in the 2000s. A library has always been the center in any civilisation, and the state library's initiative shows they are bearing the torch of progress towards the digital future.

The state library is no slouch when it comes to digital services and initiatives, including having a stacked digital collection. It was to improve the availability and usage of rare and significant materials that began to establish a Center of Excellence for study resources and works on Sarawak. The significance of this digitalisation is imperative, especially for current and future generations so that the materials are not lost. Some of the digitalised collections include Sarawakiana Collections ("Sarawakiana" publication and manuscripts), AVIOLA collections (video and audio recordings), e-newspapers, Sarawak State Bibliography, and MERPATI (artworks).

³⁹ Pustaka Background, in Pustaka Negeri Sarawak website, http://www.pustaka-sarawak.com/pages.php?&do=pustaka_profile#.X7C9VNsRXBA



3.12 Centre of Technical Excellence Sarawak (CENTEXS)

The Centre of Technical Excellence Sarawak, or CENTEXS was formally established in October 2014 by the Sarawak State Government via Yayasan Sarawak. CENTEXS' establishment was in line with both the state Governor Tun Pehin Sri Abdul Taib Mahmud and the then-Chief Minister the late Tan Sri Adenan Satem's wishes to train more technical individuals that the state needs to industrialise its economy. Hence, its roles were to train and up skill the state's youth in order to meet the technical needs and requirements of Sarawak's industries - with focus on the trades of oil and gas, construction, manufacturing and mechatronics—as well as guaranteeing them a career upon training completion.⁴⁰

CENTEX's previous iteration was as the Pusat Latihan Pembangunan Belia (PLPB), which was established in 1973 and administered by Yayasan Sarawak. PLPB was then transferred to the state's Ministry of Youth, Culture and Sports from 1986 to 2011. It was later transitioned between a few Sarawak state departments, before officially being placed under the Chief Minister's Department. The then-PLPB was an accredited centre providing programmes with Sijil Kemahiran

Malaysia under the Skills Development Department (JPK), producing numerous skilled and semi-skilled workers which fulfilled the needs of Sarawak's various industrial sectors.⁴¹

CENTEXS' programmes are developed in close consultation with the Sarawak state government, as well as the direct involvement of industry players such as PETRONAS and Huawei which assures the relevancy of its training in meeting the demands of the industry. It currently offers a total of 26 programmes at certificate level spanning the 6 oil and gas trades, electrical and port, construction, hospitality, textile and heritage as well as digital. These programmes are certified by CENTEXS' respective industry partners and vary in length, each spanning anywhere from a minimum of 1 month to 15 months maximum. CENTEXS trainees are eligible for lodging and sustenance facilities, as well as for Yayasan Sarawak's technical study loan facility should they meet the foundation's requirements.⁴²

The main CENTEXS Sarawak campus located at the Santubong area of Kuching now houses digital training labs and classrooms equipped

⁴⁰ CENTEXS, 'About CENTEXS: Introduction of Centre of Technical Excellence (CENTEXS)', <https://www.centex-sarawak.my/about.php>

⁴¹ CENTEXS, 'Historical Background of Centre of Technical Excellence', <https://www.centex-sarawak.my/history.php>

⁴² CENTEXS, 'Centexs Programme', <https://www.centex-sarawak.my/programme.php>



with state-of-the-art training facilities and equipment, following a recent upgrade. As of 2019, there have been plans to eventually upgrade CENTEXS Santubong to an accredited academy offering graduate-level

training and masters' courses.⁴³ CENTEXS has also launched a temporary campus in Betong which began operating in 2019 ⁴⁴ , with other campuses to be set up in Lundu, Dalat and Lawas in the near future.

3.13 Summary

Sarawak's digital family is a diverse yet driven, youthful yet wise. It has a great mix of the young and the old coming from various complementary backgrounds ranging from government, politicians and statesmen, entrepreneurs and members of the local communities. This diversity is faithful to Sarawak's roots and heritage, and their various experiences and expertise create a digital tapestry that sets the state on its way for digital emancipation.

It is noteworthy that Sarawak's digital journey began with a digital family, subverting the precedent set by MSC Malaysia and ticking all the boxes outlined early in this chapter with regards to effective and successful digital ecosystems. While the MSC Malaysia comparison is not a fair one, such a key difference at a critical early stage that is in line with global practices and framework can only bode well for the state's digital economy vision.

⁴³ Lim How Pim, 'Centexs Santubong to become academy,' Borneo Post Online <https://www.theborneopost.com/2019/03/30/centexs-santubong-to-become-academy/>

⁴⁴ Natasha Jee, 'More Centex to train youth for digital world,' New Sarawak Tribune. <https://www.newsarawaktribune.com.my/more-centex-to-train-youth-for-digital-world/>

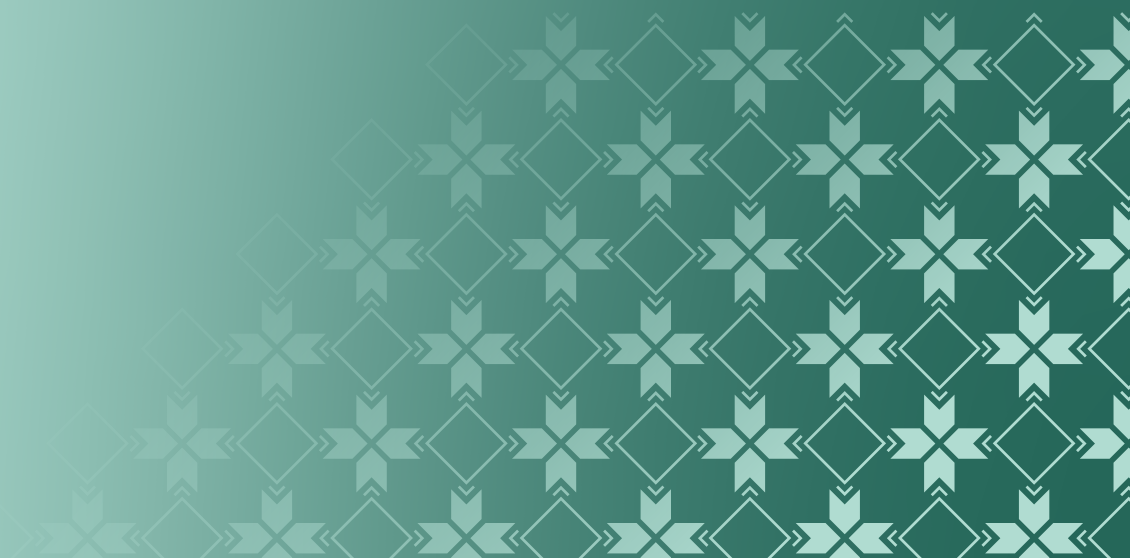


Photo by NASA

A DIGITAL HORIZON

Making a Digital Sarawak Together

4







A DIGITAL HORIZON

4.0 Making a Digital Sarawak Together



By 2030, Sarawak will be a developed state with a thriving economy driven by data and innovation where everyone enjoys economic prosperity, social inclusivity and a sustainable environment.”

**Datuk Patinggi Abang
Zohari Tun Openg**

During the first IDECS in 2017

When Sarawak held its first-ever digital economy conference in 2017, not many saw, let alone shared, the vision that new Chief Minister Datuk Patinggi Abang Zohari had for the state.

Held at the Borneo Convention Centre Kuching (BCKC) in early April, the International Digital Economy Conference Sarawak (IDECS) was the state's first unofficial step towards its digital agenda. Its theme of “Transforming Sarawak through digital economy” was timely - the conference's focus on creating awareness of the digital economy for local businesses to tap into larger business markets reflected the state's need to find solutions to the economics and investment issues prevalent in Sarawak's economic development. The conference didn't just create a space for digital economy experts to meet and exchange opinions, it also gave local digital entrepreneurs and practitioners a long-awaited platform to share their thoughts on Sarawak and the digital beyond.

Conference chairman Tan Sri Mohamad Morshidi Abdul Ghani underscored its significance in his remarks leading up to IDECS 2017. “We are challenging local businesses to rethink the way they deliver their products and services through the digital economy. The bottom line is that we want to see more Sarawakians engage online. At the same time, the state government will create a policy framework that promotes the growth of our digital economy,” he continued.¹

IDECS 2017 was jointly organised by Sarawak state government, Sarawak Centre of Performance Excellence (SCOPE) and Sarawak Information Systems Sdn Bhd (SAINS). They were supported by the Leadership Institute, Sacofa, Radio Televisyen Malaysia (RTM), Business FM (BFM), Sarawak Business Federation, TVSarawak, Curtin University of Technology, Swinburne University of Technology, Australia and Universiti Malaysia Sarawak (Unimas).²

¹ Geryl Ogilvy. Gearing towards a digital economy. The Star.

From <https://www.thestar.com.my/metro/community/2017/03/02/gearing-towards-a-digital-economy-government-initiated-conference-aims-to-spur-growth-in-states-econo>

² Samson Tan. Delegates should rethink way to deliver products, services. Leadership Institute, Sarawak Civil Service.

From <https://www.leadinstitute.com.my/press-release/tag/Digital+Economy>



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It has come a long way since - its hybrid edition in 2020 themed “Data & Innovation Accelerating Social & Economic Prosperity” that combines restricted attendances and live webinars due to the COVID-19 pandemic is testament to the conference relevance and growing importance in the narrative of the state's economic development. Now it is a fixture in the state's digital economy calendar, serving as an annual milestone event to bookmark the state's progress in its digital agenda. As an event, it complements all the other programmes and initiatives held and organized within the blooming Sarawak digital innovation and entrepreneurship ecosystem. It is a stage to share and showcase the accomplishments of the state's work and the talents that the state is helping cultivate, while providing a much-needed opportunity for startups to rub shoulders with people from the industry and community from the comfort of their own backyard.

The 8-month gap between the first IDECS in 2017 and the announcement of the Sarawak Digital Economy Strategy (SDES) 2018-2022 represents the urgency and importance of the state's digital agenda. In a vacuum, that period is long enough; the result is not surprising. But take into account the fact that Datuk Patinggi Abang Zohari only took office

in January 2017, then everything takes a whole new perspective. The Chief Minister was able to rally his state past the passing of his predecessor in such a short time, and implant his own vision to build a new economic agenda that synergized the existing one (SCORE) without replacing it, all converging nicely into the target of becoming a developed and high-income state by 2030. Datuk Patinggi Abang Zohari effectively took less than 12 months to envision, draft and table the SDES, all within his first year of office.

Whatever we may think about how the Sarawak Digital Economy Strategy (SDES) 2018-2022 was formed, one thing is clear - the chief minister's vision for an economy that Sarawak can call its own; one that no longer depends on finite non-renewable natural resources, one that addresses the urban-rural socio-economic gaps while serving disenfranchised Sarawakian millennial youth facing employment issues.

Datuk Patinggi Abang Zohari's vision of a digital Sarawak economy built to be sustainable and self-sustaining by a digital Sarawakian society may be chalked off as an old statesman romantic ideal for his beloved state, but don't be surprised if many Sarawakians - especially its youth - will gladly take up arms (and keyboards) to disprove that notion.





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UN

ABANG JO

SMA
SARAWAK MULTIMEDIA AUTHORITY

TEGAS

**Digital
Innovation
Hub.**



Vision, Agenda, Family

It is interesting to note that the state's approach towards a digital economy was one that is rooted in education.

Its first unofficial move to fulfill its digital vision was to organize a digital economy conference. On top of conducting its own studies on how to best pivot to a new digital economy, the state identified experts of the field who knew more about the subject and created a space to welcome them over to Sarawak and offer their insights and inputs. The space also served as a platform for local digital communities and practitioners to gather and make their presence known, rubbing shoulders not just with their global peers but also those from the state who are eager to create new partnerships and collaborations. Notably, key supporting organizers of the IDECS also come from the education sector.

Secondly, upon tabling the Sarawak Digital Economy Strategy (SDES) 2018-2022, the state focused the SDES' implementation on the Innovation Entrepreneurship Ecosystem (IEE) which featured its Digital Innovation Hubs (DIHs) complemented by the district community centres. The DIH plays a central role in cascading and spreading the basic digital know-how to Sarawakian people all over the state, serving as a contact point that filters and funnels talents and ideas into accelerators and bootcamps that eventually sees them become startups that give something back to the local community and society.

Thirdly, the state's designation of **TEGAS** as one of the main executors of its digital agenda. With a proven track record of helping hundreds of thousands of Sarawakian youth in secondary and tertiary education, **TEGAS's** remit of helping create human capital ready for SCORE was recognized, resulting in an enhanced role—now it is mandated to help the SDES by operating its DIHs and running digital innovation and entrepreneurship programmes.

If anything, the Sarawak Digital Economy Strategy (SDES) 2018-2022 and the state's digital agenda is holistic. Earlier in this book we used MSC Malaysia as a signpost to discuss the merits of the SDES, and it is worth noting at this point that the SDES' rollout has some fundamental differences to MSC Malaysia that makes it better suited to tackle the Sarawakian economic problems.

MSC Malaysia first two phases focused on building corridors that are filled with infrastructures that help spur the local ICT and multimedia sectors. These corridors typically focus on more urban areas, and are highly dependent on infrastructure and infostructure. A lot of the initiatives and programmes focus on building MSC-status corporations and businesses. Granted, at the time, technopreneurship and digital innovation was not as open and accessible as it is now—the internet and smart devices were key culprits—and the market and ecosystem was very



CHAPTER 4 A DIGITAL HORIZON

different, but the difference in perspective and focus is clear. The SDES rollout understood one key thing—it is not about the infrastructure and technology that the state is building, but it is how the Sarawakian rakyat is going to access and use them.

The digital Sarawak story started with a digital vision in the passionate mind of Chief Minister Datuk Patinggi Abang Zohari. Then, in less than a year, it took the form of a digital agenda in the shape of the Sarawak Digital Economy Strategy (SDES) 2018-2022. This digital agenda grew to become a digital family that made up of the Sarawak Multimedia Authority (SMA), Sarawak Digital Economy Corporation (SDEC) and Tabung Ekonomi Gagasan Anak Sarawak (**TEGAS**) along with partners such as SMG, iCube, Serba Digital X, Caliphs, MaGIC B744, Plux, PUSTAKA, Centexs, HAUS KCH and along with tens of thousands of students, startups, developers, users and participants in just three short years (the lockdown-hit 2020 notwithstanding).

This growing digital family is building a digital ecosystem that consists of layers of infrastructure designed to reach out and

connect with Sarawakians all around the state regardless of their geographical limitations. Co-working spaces, community centres, digital campuses and micro-hubs are sprouting and coming together to help build their local communities, inculcate a smarter digital lifestyle and educate them to become more progressive and proactive in affecting their lives. All this will slowly—but surely—lead to a digital society that is ready to push Sarawak past 2022 all the way to 2030 and beyond, becoming a self-sufficient and self-sustaining developed and high-income state served by a thriving digital economy.

It may be tempting to be excited and revel in this promise, but it is only 2021. With COVID-19 slowing down the global economy in 2020 and the foreseeable future, it is wise to temper expectations and not to look beyond the horizon. More importantly, the Sarawak Digital Economy Strategy (SDES) 2018-2022 is only 3 years old - families and ecosystems and societies don't grow overnight. The remaining chapters will present the key efforts in building the Sarawak innovation and entrepreneurship ecosystem (IEE) and discuss the progress of the SDES thus far, as an opportunity for us to reflect on all that has been done up to now.

A DIGITAL PURSUIT

5

Sarawak's Digital Efforts

Sarawak Innovation
Entrepreneurship Ecosystem (IEE)

Partnering Hubs

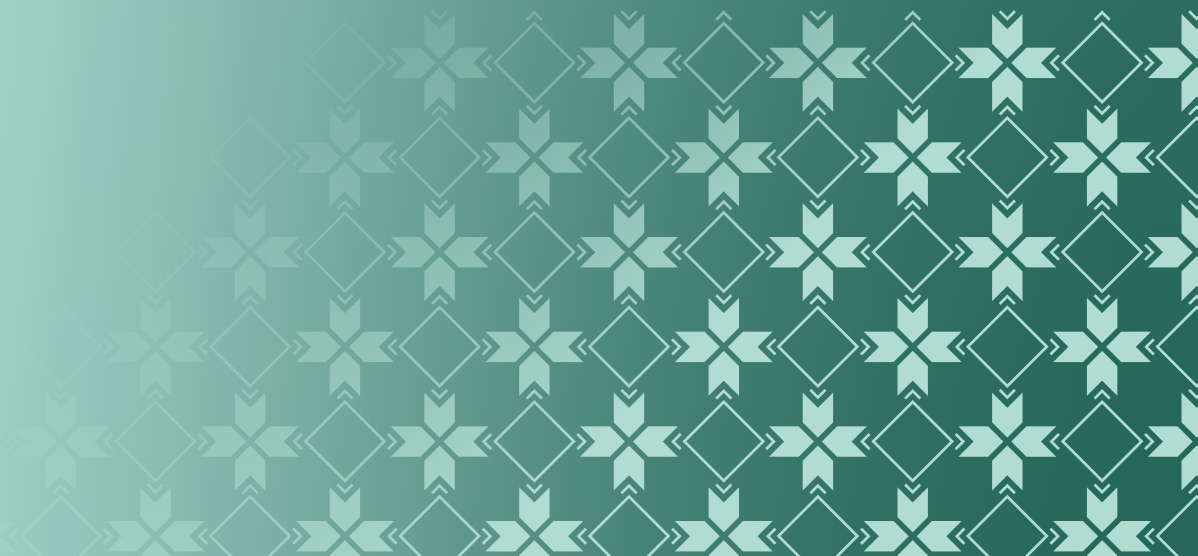




Photo by Andras Vas

5.0 Sarawak's Digital Efforts



Music In The Digital Age sharing session during TEGAS Tech-Aware 2018

The key components for an effective digital ecosystem identified by Omar Valdez-de-Leon were platform, network effects and market expectations. Evaluating the early days Sarawakian digital innovation and entrepreneurship ecosystem that is built by the Sarawak Digital Economy Strategy (SDES) 2018-2022, two out of the three components are firmly in place.

The platform component went up and running smoothly and quickly, achieving quick wins in creating and sustaining the hype of a new digital agenda for Sarawak with the combination of constructing hubs, consolidating partnerships with communities, and establishing clear contact points for the Sarawakian public. The network effects component was also efficiently established, allaying any early anxieties or concerns about the state following up on its ambitious vision with a combination of connecting with the grassroots, establishing strategic partnerships with ecosystem players, and setting up a range of programmes and initiatives to support the ecosystem.

Market expectations, on the other hand, is a bigger beast to tackle and that takes time.



The local market for digital entrepreneurship and innovation was very niche at the time to say the least. This is not to say that they weren't ready—as a matter of fact, Sarawak is very eager to forge a new path for a socio-political future of their own—but the collective Sarawakian consciousness and application of the digital world was not as savvy as, say, Selangor. Thus, expecting the market to jump onto the new digital agenda was unreasonable. Especially considering this was an agenda for the state's economy that seeks to pivot from one that is currently dependent on non-renewable natural resources. Additionally, **TEGAS'** efforts to drive more technical and vocational education was only starting to gather steam at this point, so it would not be fair to expect the (a) market to take form overnight.

In simpler terms, there wasn't any existing or burgeoning local digital innovation and entrepreneurship market sector to tap into at the time - the state had to, effectively, create one such market.

In building these digital ecosystem components, the state has identified and consolidated the key enablers of the ecosystem as listed by Valdez-de-Leon. Sarawak Pay is one of the many APIs ecosystem while also being its flagship product. It has been adopted state-wide and while its usages are mainly focused on the more urban areas of Sarawak,

it being the state's own means a lot to the Sarawakians using it. Communities are one key enabler that the state enjoyed more support with—the likes of iCube, Borneo 744 and HAUS KCH offered readily available burgeoning communities that are eager to take full advantage of this new digital agenda. **TEGAS**, SDEC and SMA all combine to provide the support functions and governance required at this stage to enable the Sarawak digital innovation and entrepreneurship ecosystem and economy. A revenue model is a notable absence at this point, but considering that this is a long-term vision for the state economy (that is funded by the state) and not a specific business venture, it is not surprising to have a revenue model per se. That said, revenue models are being taught as part of the various digital innovation and entrepreneurship programmes offered.

That the state decided to implement the Sarawak Digital Economy Strategy (SDES) 2018-2022 with **TEGAS** may prove to be crucial in the long run - **TEGAS**, through their previous work for SCORE, understands the nuances of innovation in state education. The time was definitely ripe, and collectively the younger generations of the state are becoming more aware of the connectivity of the digital world, and how it allows them to go beyond state borders to fulfill their needs and imaginations. Youth education on innovation and entrepreneurship, via **TEGAS**, was strategic and wise.



The platform for Sarawak's digital economy

The platform component of the Sarawak digital ecosystem discussed above refers to a host of infrastructural initiatives that the state undertook at the onset of the SDES. These include digital hubs (large and small, government and private) in the shape of co-working spaces, community centres and digital campuses. These infrastructures fulfill multiple important roles in the state's early efforts to build a digital ecosystem for their future digital economy—a focal point for the agenda, a contact point for the public, a base of operations for the team, a support system for the community and a breeding ground for new talents and ideas.

From a visibility standpoint, the above infrastructure represents a clear and continuous progress on the state's part to do right by its digital economy vision. As a focal point of the state's digital agenda, it plays a symbolic role in instilling confidence and reassuring the Sarawak people that the digital agenda is indeed on its way. With every completed hub and agreed MOU, the public can follow and assess the state's progress clearly and critically on their own with a lot less doubt. They are more than welcome to visit these establishments on their own to not

only observe, but also participate in the digital agenda. The geography of the infrastructure adds to this—the community centres and hubs set up in the farther reaches of the state signal a passion and commitment to reach out to the people of Sarawak. More importantly, these far-flung hubs and centres do not attempt to implement a one-size-fits-all treatment and solution to local problems, they instead educate the locals on available innovations before empowering them to build their own solutions. The personnel employed in executing this plays an understated role—they do a huge amount to bridge the gaps in the local communities' digital know-how. They help dispel the myths and fears of this new digital frontier; helping the locals see a new path to affect and change their lives without having to subscribe to the notion of migrating to Kuching or even West Malaysia to do so. Furthermore, these hubs and centres are natural extensions of the state's digital ecosystem and economy governance—they not only execute the policies and laws governing the digital agenda, they also do it in a collaborative and responsive manner that is in touch with the local communities and practitioners.



CHAPTER 5 A DIGITAL PURSUIT

The above also overlaps with the infrastructure's role as a contact point for the public. Its non-formal non-governmental approach and strategic locations grant the Sarawakian public all across the state reasonable access. Youths with previous limited internet connection and device access now have more of an opportunity to touch and experience these technologies for the first time, not just addressing the technical and vocational needs of state education but also sparking deeper interest and inspiration in them to accomplish more. They now have more ways to emancipate themselves and actualize their inherent potential. Post-school employment challenges now have an extra solution.

The above two roles make these hubs and centres an ideal and conducive base of operations for the collective team to build Sarawak's digital ecosystem and economic

future. Its decentralized structure allows for more nuanced governance and management. This allows the creation of more self-sustaining startup communities that are localized, adaptable and highly relevant to their local communities. In turn, these hubs and centres become embedded in the local community—they provide a constantly ready support system locally to help their community hack their local challenges, breeding a new generation of new talents and ideas that will stay around for the longer term.

These digital hubs—co-working spaces, community centres and digital campuses—will be discussed and highlighted individually later in this chapter to provide a clearer view of their roles and achievements thus far.



Network effects building Sarawak's digital economy

The network effects component of the Sarawak digital ecosystem mentioned early in this chapter come in the form of digital innovation and entrepreneurship programmes by the state and its partners. These programmes are organized by the state itself (via SDEC and **TEGAS**) at the previously discussed digital hubs, community centres and digital campuses. They are also organized by the private and educational sector, be separately or in collaboration with the state. These include the likes of iCube and Curtin University, not to mention MaGIC.

The participants and target demographic for these programmes are currently independent local startup communities that are mainly based in Kuching. Over the last three years, interests

and responses from local talents in the more rural hubs and centres have started to increase, as a result of these programmes. These programmes cover all the basics of digital innovation and entrepreneurship—develop ideas into products, market testing, pitching and funding, scaling up, business development and all other identified skills and knowledge areas that the local communities are missing.

These programmes will be highlighted individually later when discussing the digital hubs, community centres and digital campuses above. Discussing them in the context of the hubs and centres they are organized in will add more context and understanding to the current Sarawak digital agenda efforts.

In a nutshell

The most efficient way to present and discuss the Sarawak digital ecosystem in its current form is by mapping its infrastructure. At the time of writing, its infrastructure consists of

3 main elements—the **TEGAS** Digital Village, the network of state-run digital innovation hubs and community centres, and lastly the partnering hubs from the Sarawak private sector.



5.1 Sarawak Innovation Entrepreneurship Ecosystem (IEE)

Sarawak Multimedia Authority's (SMA) establishment as a regulatory body in accordance with Section 3 of Sarawak Multimedia Authority Ordinance 2017 is to spearhead, oversee and facilitate the development and implementation of the communication, multimedia and the state's Digital Economy initiatives. Initiatives for the latter includes include building high-impact startups via the Sarawak Innovation Entrepreneurship Ecosystem (IEE), which provides start-ups with services and opportunities including co-working spaces, development programs, funding and investment opportunities, events, technology partners, research and development (R&D) platforms as well as access to international markets.¹ The specific stakeholders representative of sectors present in the start-up ecosystem including STEM & industry education, events, investors, ideation & acceleration, research & development, entrepreneurial education, co-working spaces and support networks are outlined within the IEE Ecosystem Map.

The role of the Innovation & Entrepreneurship Unit of Sarawak Digital Economy Corporation (SDEC) is essentially to coordinate and oversee the very digital ecosystem focusing on digital talent development and digital entrepreneurship in Sarawak, along with its many stakeholders. This also includes the task of developing a Digital Innovation Hub (DIH) in each of Sarawak's divisions, as well as helping facilitate other such hubs which include private sectors, universities and communities - in line with Action 37 of the Sarawak Digital Economy Strategy (SDES).

As of August 2020, SDEC supports 7 such centres, with 7 more in planning or slated for completion - including the **TEGAS** Digital Village. While SDEC manages the Creative Heritage Innovation Centre in Kuching on its own, the 3 **TEGAS** Digital Innovation Hub centres in Kuching, Bintulu and Miri are managed by **TEGAS**. However, the Sarikei Innovation Centre is co-run by Kuching-based incubation centre iCube Innovation and SerbaDigitalX in Samarahan is a collaboration with Serba Dinamik.²

¹ 'Our Mission and Vision', Sarawak Digital Village Ecosystem,
From <https://sarawak.digital/>

² 'Digital Innovation Hub Current Progress' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck

5

TEGAS Digital Innovation Hubs



Mentoring session during TEGAS Pre-Accelerator Bootcamp in 2018

Funded by the Sarawak government and managed by **TEGAS** (Tabung Ekonomi Gagasan Anak Sarawak), the **TEGAS** Digital Innovation Hubs (TDIHs) plan to help and empower early-stage startups and social enterprises in Sarawak through entrepreneurship education and venture acceleration programmes—which they have been successful in doing. So far it has three hubs, one each in Kuching, Bintulu, and Miri. Every one of their hubs is able to accommodate around 100 visitors and offers all the basic facilities such as coworking and event spaces, high-speed internet, printing services and many more. All three hubs are open on weekdays from 9am to 6pm.

The TDIHs have also helped 195 early-stage startups and social enterprises (as of March 2021) through their excellent venture acceleration programmes. These programmes are: EntreCamp, **TEGAS** Pre-Accelerator Bootcamp, Youth Founder Mentoring Programme, **TEGAS** Startup Lab (accelerator), **TEGAS** Social Impact Accelerator, Sarawak Shell LiveWIRE, and UNDP Youth Co:Lab; which benefitted a total of 582 participants over the years. Some success stories include, Ctrl D Studio, Trifold X, BeGO, The Tuyang Initiative, Borneo Digital, Volume R&D and HAUS KCH.



Creative Heritage Innovation Centre

Also known as CHIC, the cozy space located at Bangunan Yayasan Sarawak was launched on 19 November 2019 in conjunction with SMA Open Day by the Chief Minister. CHIC is a space that supports 150 visitors with services such as performance stage, event space, co-working space, printing and internet provided. The DIH is also active in organizing events ranging from talent building to workshops to talks to open competitions. It is the largest DIH to date that opens from 10am to 6pm on weekdays. CHIC also runs a community programme to help frontliners and in-need

families during the Movement Control Order period.³

CHIC became more than a digital hub by making itself a center for donation requests through a webapp (www.jagasamadirik.org) and for others to drop-off those donations such as necessity items (perishable and non-perishable foods, infant milk formula, diapers and so on) and PPEs (mask, 3D printed face shields, and etc.). The hashtag #JagaSamaDirik because the call within the community to help each other, especially for those in need.

Sarikei Innovation Centre, powered by iCube

Dubbed as S.I.C., it was launched on September 17 in 2017 by the Chief Minister to connect the local communities in Sarikei and establish a foothold for a digital economy ecosystem. Since the hub is located in a formerly abandoned for 80-years District Office⁴, the space needs some help to be digitally accessible and it was helped and transformed by iCube to be

the cutting edge it is now. It seeks to raise the quality of life in Sarikei into a high performing digital community. Adding to that, S.I.C. accommodates around 100 visitors and offers co-working spaces, event spaces, high speed internet and others. It is also active in conducting events such as workshops, seminars, accelerator programmes, and those in line with the other DIHs.

³ Natasha Jee. (July 3, 2020). SMA offers free access at its Digital Innovation Hub for university students. *New Sarawak Tribune*. Retrieved From <https://www.newsarawaktribune.com.my/sma-offers-free-access-at-its-digital-innovation-hub-for-university-students/>

⁴ New Sarawak Tribune. (August 29, 2019). Promoting eCommerce platforms in Sarikei. *New Sarawak Tribune*. From <https://www.newsarawaktribune.com.my/promoting-ecommerce-platforms-in-sarikei/>

5

TEGAS Digital Village @ Sama Jaya High Tech Park



TEGAS Digital Village—a platform to empower high-growth startups to scale globally—commenced in January 2019 and was initially scheduled for completion in July 2020. In March 2020, the Green Building Index Accreditation Panel was awarded the Provisional GBI Certified Rating for **TEGAS** Digital Village, based on the recommendation provided by the assigned GBI certifiers. However, the project was slightly behind schedule (3%) and when MCO was enforced in March

2020, **TEGAS** had to issue a stop-work-order to their contractor. As a result, the project was delayed by 16% in June 2020, and **TEGAS** came up with a new catch up plan and worked closely with their consultants and contractor to expedite it—without compromising on the quality as required under the contract. Despite all the challenges they faced, especially during the pandemic, **TEGAS** has managed to deliver this project as the Chief Minister envisioned it to be.



CHAPTER 5 A DIGITAL PURSUIT



The Right Honourable Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari, Chief Minister of Sarawak, alongside Board of Trustees of TEGAS during the Site Visit of TEGAS Digital Village





A digital platform to call Sarawak's own

The **TEGAS** Digital Village's establishment falls under Action 38 of the Sarawak Digital Economy Strategy (SDES). It aims to facilitate technology transfer and commercialization as well as to accelerate the maturity of start-ups through global partnerships. The various initiatives at the Digital Village will also include the establishment of a "Launch Sarawak" programme—as outlined in Action 39—which will support innovation, intellectual property (IP) creation and spin-offs, as well as scale-up programmes and an OpenLab. Additionally, this will pave the way for the state to set up "digital landing pads" overseas to promote Sarawak as a destination for hi-tech innovation and entrepreneurship, ultimately encouraging both foreign and domestic investment as outlined in Action 40.⁵

As for the **TEGAS** Digital Innovation Hubs (TDIHs), some of the programmes falling under the tech startup and social enterprise categories include the **TEGAS** Pre-accelerator Bootcamp, **TEGAS** Startup Lab Accelerator, Social Impact Accelerator, Sarawak Shell LiveWIRE, and UNDP Youth Co:Lab, to name a few. Lastly, IEE's stable of STEM programmes include Borneo International Drone and Robotics Explore (DROBOTEX), Junior Innovate, Young Innovators Challenge and STEM Playground.⁶

The programmes at the TDIHs in Kuching, Bintulu and Miri cover three phases of the startup development: problem-solution fit, vision-founder fit, and product-market fit. Currently, **TEGAS** has pivoted towards online-only programmes such as virtual accelerators and e-learning series in 2020 as part of the 'new normal' due to the COVID-19 pandemic.

The key programmes for IEE are among others, the **TEGAS** Pre-Accelerator Bootcamp, **TEGAS** Startup Lab (accelerator), Sarawak Shell LiveWIRE. All are run at the TDIHs. The **TEGAS** Pre-Accelerator Bootcamp (TPAB) is a one-week programme intended for early-stage start-ups wanting to progress to the next level, as it covers the various stages of idea validation, creating a minimum viable product (MVP) and a go-to-market strategy. Participants are coached and mentored by industry experts and seasoned entrepreneurs, with topics such as starting up, team and product, going to market, fundraising and pitching being covered throughout the bootcamp. The bootcamp prepares participants for a Demo Day to select the top three winners and a chance to pitch to early-stage investors as well as a green lane to participate in **TEGAS** Startup Lab (accelerator), Social Impact Accelerator and Sarawak Shell LiveWIRE.⁷ Demo Day winners receive an attractive package that includes company incorporation support and three-month access to **TEGAS** Digital Innovation Hubs.

⁵ 'Strategic Actions,' Digital Action and Entrepreneurship in Sarawak Digital Economy Strategy (SDES) 2018-2022 Booklet, Sarawak State Government

⁶ 'Breadth of Our Digital Focused Programmes,' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck

⁷ 'TEGAS Pre-Accelerator Bootcamp open for applications,' Borneo Post Online
From <https://www.theborneopost.com/2019/03/06/tegas-pre-accelerator-bootcamp-open-for-applications/>



The first two **TEGAS** Pre-Accelerator Bootcamps (TPABs) attracted 40 start-ups⁸ spanning 2 cohorts.⁹ However, the COVID-19 pandemic has necessitated TPAB to be moved online for the first time in 2020, as well as a slight rebrand to the programme name. Now known as the **TEGAS** Digital Pre-Accelerator (TDPA), the first iteration of this pre-accelerator programme ran virtually from the 13th to the 18th of July 2020. 15 start-ups were selected for the 2020 cohort,¹⁰ and the top 3 winners of TDPA were announced by August 2020.¹¹ All Sarawakians or startups with at least one Sarawakian co-founder are eligible to join this bootcamp. Previous TPAB alumni include Volume R&D, an online contract research & development company and Majoh!, a food delivery start-up focusing on home-cooked food.¹²

TEGAS Startup Lab (TSL) Accelerator is a structured, 5 month-long seed/early venture accelerator programme founded on the basis that connecting local startups with the right mentors, investors, and industry experts is the best way for these start-ups

to eventually scale up and generate explosive growth. TSL participants receive coaching and mentoring by seasoned experts and entrepreneurs, access to grants, funding and the Sarawak digital ecosystem network as well as access to **TEGAS** Digital Innovation Hubs and the Escape by Etiqa Innovation Hub in Kuala Lumpur. Participation of TSL is open to Sarawak-based startups focused on key sectors identified in the Sarawak Digital Economy Strategy (SDES) 2018-2022. Eligibility criteria include a minimum of 51% Sarawakian shareholding, operation period of at least 6 months at the time of participation and not more than 2 years with proof of market traction in the form of revenue or customer acquisition. A total of 10 start-ups made up the previous 2 TSL cohorts, with the third and most recent cohort of selected participation and not more than 2 years with proof of market traction in the form of revenue or customer acquisition.¹³ A total of 10 start-ups¹⁴ made up the previous 2 TSL cohorts,¹⁵ with the third and most recent cohort of selected TSL participants announced in August 2020. The 2020 edition of TSL is set to run from August to December.¹⁶

⁸ '20 start-ups join Tegas Pre-Accelerator Bootcamp,' *Borneo Post Online*
From <https://www.theborneopost.com/2018/03/29/20-start-ups-join-tegas-pre-accelerator-bootcamp/>

⁹ '20 startups join TEGAS Pre-Accelerator Bootcamp cohort 2,' *Digital News Asia*
<https://www.digitalnewsasia.com/startups/20-startups-join-tegas-pre-accelerator-bootcamp-cohort-2>

¹⁰ 15 start-ups selected for Tegas programme, *New Sarawak Tribune*
From <https://www.newsarawaktribune.com.my/15-start-ups-selected-for-tegas-programme/>

¹¹ Swinburne's students win Tegas programme, *New Sarawak Tribune*
From <https://www.newsarawaktribune.com.my/swinburnes-students-win-tegas-programme/>

¹² Nur Afifah, 'Memanfaatkan Teknologi Masa PKP, Ini Solusi Kreatif 'Startup' Sarawak,' *iloveborneo.my*
From <https://www.iloveborneo.my/cerita-menarik-dari-borneo/memanfaatkan-teknologi-masa-pkp-ini-solusi-kreatif-startup-sarawak/>

¹³ 'TEGAS Startup Lab now open for applications,' *Digital News Asia*
From <https://www.digitalnewsasia.com/digital-economy/tegas-startup-lab-now-open-applications>

¹⁴ '5 selected for TEGAS Startup Lab,' *Digital News Asia*
From <https://www.digitalnewsasia.com/startups/5-selected-tegas-startup-lab>

¹⁵ 'Five selected for TEGAS Startup Lab Cohort 2,' *New Sarawak Tribune*
From <https://www.newsarawaktribune.com.my/five-selected-for-tegas-startup-lab-cohort-2/>

¹⁶ *The Borneo Post*, 'Tegas welcomes five start-ups to third batch'



Launching of TEGAS Digital Innovation Hub Kuching

TEGAS' strategic delivery partner for both TPAB and TSL is WatchTower & Friends Accelerator (WTF), whose notable alumni includes the likes of TheLorry, PostCo, ParkIt, Lapasar and Omnimatics. TSL's many alumni include Trifold X, a tech startup focusing on virtual, augmented and mixed reality content creation and Menur, a textile company manufacturing high-quality scarves which are already being exported to Brunei and Indonesia.¹⁷

The Sarawak Shell LiveWIRE programme initially began in 2016 and offered all winning startup seed grants worth RM10,000 each. But the programme had only begun partnering with **TEGAS** in 2017, in line with furthering the state government's efforts to grow the Sarawakian economy.¹⁸

Shell's flagship global enterprise development programme seeks to unveil potential startups in Sarawak by supporting and inspiring young entrepreneurs to innovate and provide real business solutions meeting current socio-economic needs. Participants will gain access to coaching and mentoring support from Shell LiveWIRE facilitators, access to Shell Malaysia's Value Chain and the Sarawak digital ecosystem network as well as access to both **TEGAS** Digital Innovation Hubs and the Escape by Etiqa Innovation Hub in Kuala Lumpur. The programme is currently based in the **TEGAS** Digital Innovation Hub (Kuching, Bintulu and Miri) and winners now receive an additional RM5,000 contributed by **TEGAS**, on top of the RM10,000 seed grant money from Sarawak Shell Berhad.

¹⁷ '5 selected for TEGAS Startup Lab,' Digital News Asia
From <https://www.digitalnewsasia.com/startups/5-selected-tegas-startup-lab>

¹⁸ 'Sarawak Shell LiveWIRE,'
From <https://livewire.shell.com.my/about-livewire/sarawak-shell-livewire.html>



As of 2019, it has attracted a total of 326 participants as well as 20 startup grant recipients.¹⁹ Registration for its 2020 virtual training sessions remain open at the time of writing: these training sessions are to run for a 9-month period, with spots expected to be filled by at least 30 entrepreneurs. This year's training sessions will be conducted online in the form of webinars over 5 consecutive weekends beginning on the 19th of September. Notable Sarawak Shell LiveWIRE alumni include Timogah, an online shopping platform for market produce with delivery service focusing on indigenous produce from Borneo and rural farmers and Thirst Milkshake, a Kuching-based startup that specializes in serving healthy, fruit-based milkshakes and smoothies with a focus on Sarawakian flavours.²¹ Recently, a number of these alumni have managed to leave their own mark at Shell LiveWIRE Top Ten Innovator (TTI) Awards. This award is a global competition which highlights and rewards businesses that demonstrate excellence in innovation yearly. Benak Raya Enterprise (which developed rice-based straws from Bario rice) has received the special award for Outstanding Achievement in 2019,²²

whilst Timogah has been shortlisted as a Semi-Finalist for the Local Prosperity of the 2020 edition of TTI.²³

Aside from all the above, IEE's current stable also includes a selection of programmes that focuses specifically on digital skills and talent management, such as the Borneo International Drone and Robotics Explore (DROBOTEX), Junior Innovate, Young Innovators Challenge, #InnovateSarawak Challenge, STEM Playground, Digital Storytelling Animation (DiStA) and Youth Sarawak's Social Project and Social Business Challenges. At the time of writing, 9 STEM programmes have benefitted a total of 47,522 students and 368 schools in Sarawak. A total of 8 schools from Sarawak have won national and international STEM competitions in South Korea, China and Jakarta.²⁴ Additionally, winners of the Innovate Sarawak challenge in 2019 represented the state at the national level Innovate Malaysia challenge, and took home almost 20% of the prizes offered. The Curtin University team won MDEC Digital Tech Award, the Google Track Award was clinched by the Curtin University & UNIMAS teams while both the Microsoft Track Award and the Shell Design Challenge awards were received by the Swinburne University team.²⁵

¹⁹ 'Sarawak Shell LiveWIRE and TEGAS awards Sarawak entrepreneurs for the fourth time,' in 2019 Press Releases, Shell in Malaysia
From <https://www.shell.com.my/media/2019-press-releases/sarawak-shell-livewire-and-tegas-awards-its-fourth-round-of-reaches.html>

²⁰ 'Register for Virtual Training,'
From <https://livewire.shell.com.my/register.html#iframe=L2Zvcn1zL2VuX215X2xpdmV3aXJlIX3JlZ2ldGVy>

²¹ 'Sarawak Shell LiveWIRE and TEGAS awards Sarawak entrepreneurs for the fourth time,' in 2019 Press Releases, Shell in Malaysia
From <https://www.shell.com.my/media/2019-press-releases/sarawak-shell-livewire-and-tegas-awards-its-fourth-round-of-reaches.html>

²² Sarawakian wins outstanding achievement award in Shell LiveWIRE,' Borneo Post Online,
From <https://www.theborneopost.com/2019/12/04/sarawakian-wins-outstanding-achievement-award-in-shell-livewire/>

²³ Matthew Umpang, 'Sarawakian entrepreneur Heineken Lalan shortlisted for Shell LiveWIRE Top Ten Innovators Awards,' Borneo Post Online,
From <https://www.theborneopost.com/2020/09/08/sarawakian-entrepreneur-heineken-lalan-shortlisted-for-shell-livewire-top-ten-innovators-awards/>

²⁴ 'Talent Development' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck

²⁵ 'University Level' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck



Building and measuring future success

Within the IEE programme framework, clear outcomes and key performance indicators (KPIs) have been outlined for both short and structured programmes. Knowledge-type programmes are expected to raise awareness and demonstrate the application of theory using experience or real-life examples. The success of such programmes will be gauged by using pre- and post-programme evaluation to measure understanding and looking at the number of ideas, solutions or projects generated from these programmes. Meanwhile, skills-based programmes are expected to be able to up-skill and re-skill participants using common, free or open-source solutions as well as contribute towards solving freelancing problems. Similarly, understanding is measured by utilising pre- and post-programme evaluation but the figures being looked at are the numbers of freelancers, database or revenue generated.

On the other hand, structured programmes covering problem/solution fit, vision/founder fit and product/market

validations levels are expected to be able to move participating startups across the **TEGAS** Digital Village programme funnel. The success of these programmes will be gauged by looking at the numbers of startups reaching the respective success stages, the amount of revenue generated, funding raised as well as a number of jobs created, and the communities impacted by those startups.²⁶

Moving forward, the Innovation & Entrepreneurship Unit (IEU) of SDEC has outlined their next steps to continue developing the Innovation Entrepreneurship Ecosystem. The **TEGAS** Digital Village Sama Jaya is at the center of all this. A major early milestone for the Sarawak Digital Economy Strategy (SDES) 2018-2022, it incorporates the Green Building Index (GBI) requirements and has received a provisional certified GBI status. IEU has also secured a partnership with Escape at Etiqa Innovation Hub based in Bangsar, Kuala Lumpur—acting as launchpad for Sarawak startups to enter the Peninsular Malaysia market.

²⁶ Ecosystem Programme Framework,' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck



CHAPTER 5 A DIGITAL PURSUIT



Currently, IEU has secured a total of RM3 million for their start-ups from external funding avenues such as Unit Peneraju Agenda Bumiputera (TERAJU), Malaysian Technology Development Corporation (MTDC) and Malaysian Business Angels Network (MBAN). Additionally, IEU is looking to execute more integrating and consolidating programmes with Community Resources Centres (CRCs) at the district level

as part of the wider Sarawak ecosystem. This will be done in partnership with the Sarawak State Ministry of Local Government and Housing (MLGH Sarawak) and SMA's Micro Hubs. All this and more are part of their efforts towards diversifying and building depth of successful enterprises based on the digital economy sectors as previously outlined in the Sarawak Digital Economy Strategy.²⁷

²⁷ 'Developing the Ecosystem - Highlights Next Steps' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck

5

5.2 Partnering Hubs

Aside from the **TEGAS** Digital Village and the DIHs in various districts, the Sarawak Innovation Entrepreneurship ecosystem also encompasses partner hubs such as the to-be-launched Miri's MYY Living Arts, Kuching's iCube Innovation, HAUS KCH and MaGIC Sarawak @ Borneo 744, Sibu-based Plux Incubation Hub as well as Escape by Etiqa Innovation Hub in Kuala Lumpur. Additionally, micro hubs including Pustaka Negeri Sarawak and the State's Ministry of Local Housing and Government (MLGH Sarawak) also make up the extended IEE ecosystem.²⁸

This extended IEE ecosystem includes co-working spaces and incubation hubs that are not run by either the Sarawak Digital Economy Corporation (SDEC) or Tabung Ekonomi Gagasan Anak Sarawak (**TEGAS**) but are part of the Sarawak Innovation Entrepreneurship Ecosystem. These partner hubs frequently collaborate with SDEC and **TEGAS** in various capacities which include co-organising workshops, forums and engagement sessions as well as enabling access of their respective spaces for the numerous alumni of various **TEGAS** startup programmes. Some of these partners have been covered before in Chapter 3 (iCube Innovation, MaGIC Sarawak Co-Working Space @ Borneo 744). The other notable partnering hubs are highlighted below.



²⁸ 'Digital Village Ecosystem Structure' in Digital Village Unit: Areas of Focus, Sarawak Multimedia Authority (SMA) internal deck



MOU Exchange between TEGAS and Strategic Partners during the launching of TEGAS Digital Innovation Hub Miri



HAUS KCH

An alumnus of **TEGAS** Startup Lab (TSL) Accelerator programme's second cohort,²⁹ HAUS KCH is Kuching's first grassroots-initiated creative community hub. HAUS aims to become a launchpad for creatives in Sarawak by helping grow and nurture their various disciplines. Additionally, HAUS regularly engages with new communities in need, helping them via both professional and networking opportunities. The clever naming of HAUS KCH is reflective of their nature as a creative community hub. HAUS is a catchy and funky wordplay—it is derived from a combination of an acronym of the words harmonise, accelerate, unity and sustain while the word 'haus' in Malay means 'thirsty'. This underlines a sense of passionate urgency, wonder and eagerness of the current young Sarawak creatives. Affixing KCH at the end—the airline code for Kuching—adds a welcoming cosmopolitan feel.

HAUS KCH's name is a neat description of what the space intends to do: harmonising the aspirations of those with big visions for the local community in order to accelerate the progress of local talents via fostering collaborations. This progress will then unite them, and further

steps will eventually be implemented in order to ensure the long-term sustainability of this creative network.³⁰ HAUS's third and current premises at City Square in Pending, Kuching is equipped with a co-working space, office spaces for rent, a makerspace, cafe/bar and dance studio.

Since 2019, it has also been a part of the three-year-long Hubs for Good programme in Malaysia, which is a collaboration between British Council, Yayasan Sime Darby and University Malaya's Cultural Centre. The programme involves several interrelated projects including a country-wide mapping and research, a toolkit for the use of creative hub leaders and creative practitioners, a digital platform, and capacity building activities to address skill and knowledge needs of local creative hub leaders. With notable collaborators including Me.reka Makerspace, Borneo Bengkel, Borneo @ 744, Cultural Economy Development Agency (CENDANA) and the United States Embassy in Kuala Lumpur,³¹ HAUS has held a number of events, workshops and initiatives spanning the arts, culture, community development and entrepreneurship.

²⁹ 'SMA-TEGAS welcome second cohort for TSL,' *Borneo Post Online*,
From <https://www.theborneopost.com/2019/05/28/sma-tegas-welcome-second-cohort-for-tsl/>

³⁰ 'About,' HAUS KCH
From <https://www.hauskch.com/about-3>

³¹ 'Our Collaborators,' HAUS KCH
From <https://www.hauskch.com/collaboration>



Along with SMA and The Champions, HAUS KCH was also one of the six other partners for the Indigenous Digital Outreach Programme at Long Seridan, Marudi in 2019. Spearheaded by Miss World Malaysia Larissa Ping, the pilot project aimed to empower the Penan youths at SK Long Seridan, via the use of digital technology and motivate them in their educational pursuits. The project facilitated the setup of a computer lab, a restock of the school's library, ceiling fans and lights replacements as well as the installation of solar-powered street lights in the nearby

Penan settlement.³² More recently, HAUS KCH joined local makers of Kuching such as Proteus at Digital Economy Hub, Creativeworks Technologies, The Learning Curve and SMA in producing protective face shields, ventilators and intubation shields to be used in Sarawak's fight against Covid-19. Their collaborative effort is one of the largest decentralised production efforts for face shields in Sarawak, utilising 3D printers and laser cutting technology to produce at least 1,200 face shields per day.³³

PLUX Entrepreneurs' Incubation Hub

Located within the premises of Sibü Chinese Chamber of Commerce and Industry in central Sibü town, PLUX established its Entrepreneurs' Incubation Hub in 2019 with the aim of becoming the largest entrepreneurship networking and learning platform for young entrepreneurs in Sarawak's central region.³⁴ It was established with the

help of the State Government and the Sibü Chinese Chamber of Commerce and Industry to help cultivate and grow more young entrepreneurs.³⁵ For the time being, the space also houses Sibü's Digital Innovation Hub³⁶, as the government is planning to build another physical hub in the city.³⁷

³² 'Using digital tech to enhance Penan children's education,' Borneo Post Online <https://www.theborneopost.com/2018/10/20/using-digital-tech-to-enhance-penan-childrens-education/>

³³ Sam Chua, 'Sarawak makers volunteer services to create face shields for healthcare workers,' Borneo Post Online <https://www.theborneopost.com/2020/03/28/sarawak-makers-volunteer-services-to-create-face-shields-for-healthcare-workers/>

³⁴ 'Plux Incubation Hub to play big role in connecting young entrepreneurs,' Borneo Post Online <https://www.theborneopost.com/2019/06/03/plux-incubation-hub-to-play-big-role-in-connecting-young-entrepreneurs/>

³⁵ DayakDaily. (August 29, 2019). SCCCI gets RM1m from state govt to build digital innovation hub. DayakDaily. Retrieved from <https://dayakdaily.com/sccci-gets-rm1m-from-state-govt-to-build-digital-innovation-hub/>

³⁶ Najihah Najlaa's video editing workshop is organised by Sibü DIH but the location is PLUX Incubation Hub. Retrieved from <https://www.eventbrite.com/e/basic-video-editing-workshop-tickets-113849561102>

³⁷ Bernama. (February 9, 2020). Sarawak govt to start youth innovation hub in Sibü. Bernama. Retrieved from <https://www.malaysiakini.com/news/510135>

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Escape by Etiqa Innovation Hub



Photo by Escape by Etiqa

Escape by Etiqa Innovation Hub is a co-working space specifically designed for insurance-related companies and partners of the insurance ecosystem located at level 16 of Menara Etiqa Bangsar, Kuala Lumpur. The space is fully owned and managed by Etiqa, with the aim of building, nurturing and growing a symbiotic insurance community. As a symbol of its commitment towards these goals, each member of the space will be

assigned their own dedicated Etiqa representative.³⁸ Escape by Etiqa currently acts as a launchpad for the Digital Village Ecosystem's startups to enter the Peninsular Malaysia market,³⁹ and winning start-ups from the **TEGAS** Startup Lab Accelerator, Sarawak Shell LiveWIRE⁴⁰ as well as Social Impact Accelerator programmes all gain access to the space for this purpose.

³⁸ 'About Escape by Etiqa', Escape by Etiqa,
From <https://www.escapebyetiqa.com/#cowork>

³⁹ 'Developing the Ecosystem - Highlights, Next Steps,' in Sarawak Multimedia Authority (SMA) Digital Village Unit internal slides

⁴⁰ 'Programmes,' SMA-TEGAS Digital Innovation Hub,
From <https://www.innovatesarawak.com/>



Pustaka Negeri Sarawak as a micro hub and digital archive

While Pustaka Negeri Sarawak is set to be an SMA micro hub, it is essentially a social institution providing access to information resources and not a business-oriented entity. Regardless, it does venture into innovative projects to improve service delivery and prioritises the application of digital technology as a preferred solution. In November 2019, the Sarawak State Library (Amendment) Bill 2019 which was successfully passed in the State Legislative Assembly has authorised SMA to manage and administer Pustaka Negeri Sarawak's public records and archives.⁴¹ This allows better top-down communication and

integration in ensuring no top-level policies are hampering the work between agencies towards this multifaceted singular goal of Digital Economy. More recently, an allocation of RM250 million was approved in October 2020 for the purpose of developing archives to preserve and store materials and records in Sarawak. This will include producing digitalised versions of archive documents, linking the main Sarawak State Library archives to its branches in Sibu and Miri online as well as allowing the exchange of digital documents among local libraries and those overseas.⁴²

⁴¹ Nigel Edgar, 'SMA authorised to manage State Library's archives, records under amended law,' Borneo Post Online <https://www.theborneopost.com/2019/11/05/sma-authorized-to-manage-state-libraris-archives-records-under-amended-law/>

⁴² CM: Sarawak allocates RM250m to develop archives, seeks return of historic items from abroad,' The Malay Mail, <https://www.malaymail.com/news/malaysia/2020/10/21/cm-sarawak-allocates-rm250m-to-develop-archives-seeks-return-of-historic-it/1914944>

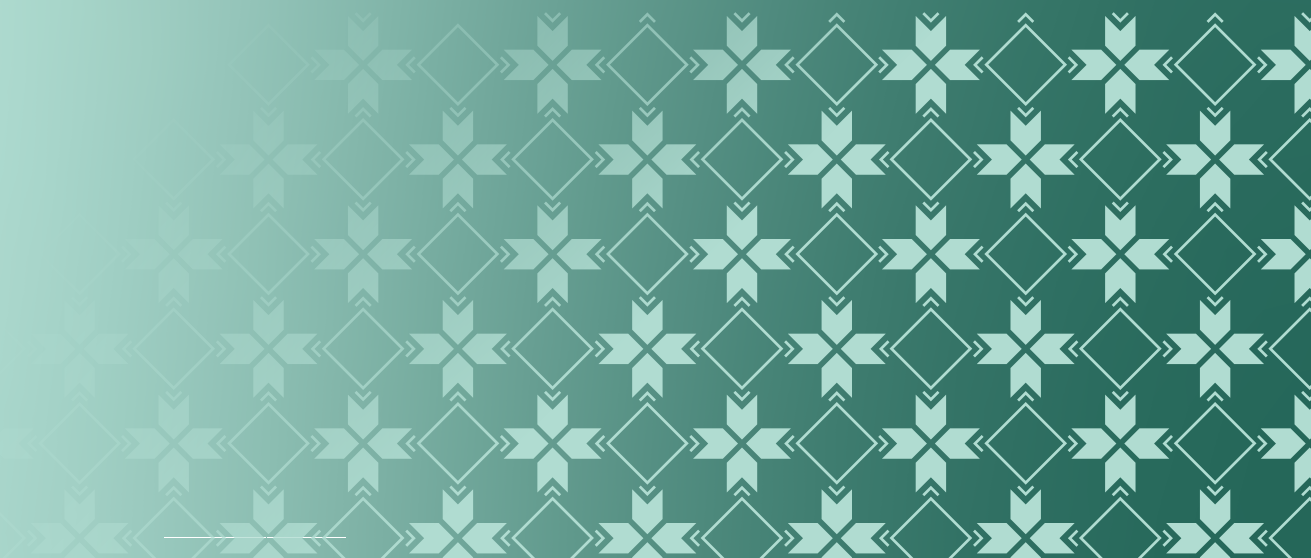
A DIGITAL BORNEO

6

Impact Assessments

Success Stories

Looking Forward





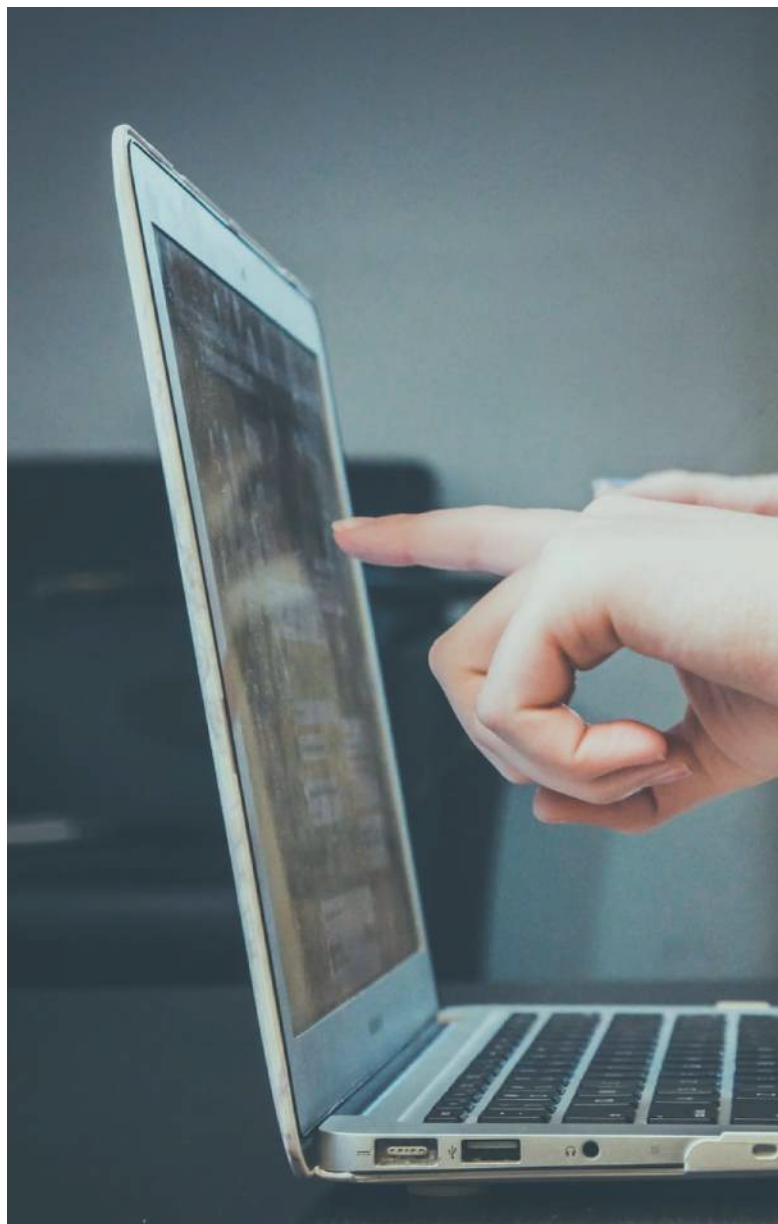


A DIGITAL BORNEO

6.0 Impact Assessments

The previous chapter (Chapter 5, A digital pursuit) presented all the key efforts the state has undertaken to establish an effective digital ecosystem under the Sarawak Digital Economy Strategy (SDES) 2018-2022 since 2017. These efforts include the Sarawak Innovation Entrepreneurship Ecosystem (IEE) and its component parts, along with the programmes and initiatives hosted by these digital innovation hubs, community centres and co-working spaces. In addition to the IEE, its partnering hubs—private co-working spaces, digital campuses, a creative community hub and micro-hubs—presently in operation and under construction were also highlighted.

All these infrastructure and programmes, along with the governance, policymaking and execution of the state's digital agenda, make up two out of the three components of an effective digital ecosystem as identified by Omar Valdez-de-Leon (Chapter 3, An introduction to digital ecosystems), namely platform and network effects. These two components have been implemented and operating successfully since the SDES was tabled, growing from strength to strength.





CHAPTER 6

A DIGITAL BORNEO



Photo by John Schnobrich

This last chapter is a cursory review of the growth of these two components, and how it has been shaping the implementation of the Sarawak Digital Economy Strategy (SDES) 2018-2022 so far. It focuses on the Sarawak Innovation Entrepreneurship Ecosystem (IEE) and the community of startups around it. These are the most objective and meaningful dataset on the performance of SDES so far. They are accessible by the Sarawak people, and have been able to produce results that are measurable to us all. The other aspects of the SDES are more subjective at this point, and require a longer and meaningful gestation period before a more appropriate and critical review can be undertaken by appropriately qualified parties. This is a qualitative and quantitative exercise, combining empirical data and results that are accompanied with interviews to add more nuance and context to the overall review. We will first look at some numbers to set the tone, before going deeper by talking to the startups themselves. Finally, we will reflect on everything this book has presented and cast our view to the horizon to anticipate what the future may hold.



Assessment 1

2020 In perspective

based on the **TEGAS** Digital Innovation Impact Report by **TEGAS**

The lockdown-ridden 2020 notwithstanding, the state's digital agenda has been ticking along nicely. Even then, a large part of the Sarawak Innovation Entrepreneurship Ecosystem (IEE) ongoing efforts were not entirely disrupted. As a matter of fact, their background and expertise operating in the digital landscape meant that they were more than ready to pivot to the no-contact physically-distanced online world. The COVID-19 pandemic presented an early opportunity to apply the knowledge, technology and talent cultivated from the foundational work since 2017. It also afforded the state a bit of respite to take a moment and review all their efforts to date, and make any necessary tweaks and changes. The incorporation of the Sarawak Digital Economy Corporation (SDEC), along with the subsequent restructuring and realignment of key functions within the Sarawak Multimedia Authority (SMA) and the IEE, are examples of this strategic review and regrouping. From this review, the state was not only able to recognize some inefficiencies and refine their efforts, they were also able to recognize and reward some of the key efforts that have gotten them this far. This publication is one such example.

Another notable development during the lockdown was how some of the startups were able to test the sustainability of their business plans and services. It gave them the impetus to explore newer business and operational models to adapt to the challenges of physical distancing from a movement control order. It forced them to become more resilient as enterprises via more robust digital marketing, financial planning, production and client servicing. Startups that are product-based consolidated their production and delivery operations, while those which are service-based became more flexible to expand into new revenue streams. This, in and of itself, is an indicator of a successful implementation of the early phases of the Sarawak Digital Economy Strategy (SDES) 2018-2022. The enterprises that have been able to cope with COVID-19 are helping prove that the SDES have not taken the wrong approach in implementing the state's digital economy agenda.

This is not to say that the pandemic did not affect the Sarawak digital economy agenda. Construction work on the **TEGAS** Digital Village Sama Jaya was delayed by over 8 months, pushing its targeted completion and launch in quarter three of 2020 well into the second



quarter of 2021. The lockdown induced by the pandemic also meant that the digital innovation hubs, community centres and co-working spaces could not be optimally utilized as they lost all physical uses. This has affected the more rural hubs and community centres, as the Sarawakian youth from those areas who are already limited in their internet and digital access have suffered from losing a beneficial third space that could have helped them immensely throughout the lockdown.

In summary, it is not unreasonable to make the observation that the pandemic has been relatively kind to the DVE not because they were less affected by it per se, but rather they were naturally built to be resilient—and thrive, in some cases—to these sorts of challenges.

The Sarawak Digital Economy Strategy (SDES) 2018-2022 was launched on the 24th of November 2017, witnessed by 5,000 civil servants who were present to celebrate the state's Civil Service Day that year. That was just over 3 years ago. But the actual amount of time available during that period is not effectively 36 months as the lockdown-ridden 2020 has put everything that the IEE has worked on for the past 3 years into perspective. The world essentially lost a whole 12 months to COVID-19 but given how the IEE has continued performing in the past 12 months, one can even argue that they have essentially saved 5-8 months of that time based on how they have been managing, as highlighted earlier.

Thinking ahead, how the IEE (and the state's digital agenda) have coped with 2020 might just have played a crucial role in ensuring the future success and longevity of the SDES.

Hindsight is 20/20 vision, the saying goes. Vision 2020, more colloquially known as Wawasan 2020, had come and gone. As noted earlier in the book, it began with a lot of political unrest, before the SARS-CoV-2 hijacked the year and held the world hostage under a #newnormal cloud of uncertainty, anxiety, and restlessness until today. Throughout 2020, the country saw plenty of developments and events that discouraged and disheartened the rakyat. Businesses crumbled, markets fell and economies damaged. Industries, especially traditional ones, suffered huge losses. The brick-and-mortar foundations of capitalism—malls, brands and commercialism as a whole—took huge hits that may not see them recover. In the wake of their desperate restructuring, downsizing and closures, a whole new independent market of direct-selling enterprises sprouted like mushrooms in the form of e-commerce, powered by the internet, social media, and global restlessness boredom. Not to mention politicians and VIPs making a mockery of lockdown SOPs, and getting caught and called out for unbecoming statements and behaviors.



All this has also cast a shadow on the state of the Multimedia Super Corridor, or MSC Malaysia. 2020 was the signpost for a developed, high-income Malaysia that is smart and sophisticated at the forefront of the information, multimedia and digital age. A signpost that we are close to and within reach of, but ultimately have not passed yet.

Thus it would be wise to take all these into perspective when we are reflecting on the Sarawak Digital Economy Strategy (SDES) 2018-2022. It is not trying to determine if it is doing better than MSC Malaysia at the same stage, or if the pandemic has given it a pass from us for now. It is about realizing how change is the only constant; that we cannot predict the future.

It is about accepting the future as something we can only aspire to and is not guaranteed, and the only thing we can control until the future becomes our reality is how best can we do our collective parts in achieving our vision and goals.

It is about giving credit where credit is due, and doing so by taking everything on its own merit with as much compassion, empathy and self-respect. This publication is not the right medium for a critical review of the SDES; it hopes that it does not seem like it is trying to be. But that doesn't mean that it can't be as objective and fair as it can be when recognizing some of the key efforts that have gotten Sarawak this far in its digital agenda.



Digital
Innovation
Hub.

ViewSonic





The immediate impact of **TEGAS** Digital Innovation Hubs

The **TEGAS** Digital Innovation Hubs (DIHs) and **TEGAS** Digital Village (TDV) were built as part of Action 37 and Action 38 in the Sarawak Digital Economy Strategy (SDES) 2018-2022. Action 37 is to establish one (1) innovation centre in each division and facilitate others (private sectors, universities and communities). Action 38 is to establish the TDV as the platform to facilitate technology transfer and commercialization, and accelerate the maturity of startups through global accelerator partnerships. The DIHs are funded by the Sarawak government as a core part of the Sarawak Innovation Entrepreneurship Ecosystem (IEE). They carry 4 main pillars—Advocate, Accelerate, Educate and Collaborate in their mission to support and empower early-stage startups and social enterprises.

The DIHs engage startups and social enterprises who are still in their startup formation and validation phases, before funnelling those with high potential to the **TEGAS** Digital Village scale-up programmes to support their startup growth phase.

During the formation phase, they cover the core concepts of ideation, conceptualization and commitment by validating the startups' problem-solution fit and vision-founder fit. In addition to the innovation process from idea to value generating product and market-proven

business model, startups also need to build a strong and committed founding team and develop both of these together into a real growing business and organization running processes that effectively capture the value created. Startups go through all these trainings and accelerators via a host of multi-pronged programmes such as #InnovateSarawak Speaker Series, Workshop Series, **TEGAS** Pre-Accelerator Bootcamp, Sarawak Shell LiveWIRE, **TEGAS** Youth Founder Mentoring Programme, **TEGAS** Social Impact Accelerator, and many more.

The **TEGAS** Digital Innovation Hubs secondary mission to build an inclusive innovation ecosystem in Sarawak is currently executed through the #InnovateSarawak movement, promoting digital innovation and entrepreneurship in Sarawak through strategic collaborations and partnerships. Despite being only two years into implementation, the IEE already have an impressive roster of partners - they can count on the likes of Shell, Grab, Curtin University Malaysia, Youth Trust Foundation (myHarapan), TERAJU, pitchIN, Swinburne University Sarawak, Universiti Putra Malaysia (UPM) Bintulu, WatchTower & Friends, Australian Trade & Investment Commission (Austrade), FutureLab and Malaysian Global Innovation & Creativity Centre (MaGIC) as high-profile and high-synergy partners.



From September 2017 to March 2021, the DIHs have recorded a total of 9,609 enquiries that encompass all the hubs' core functions. DIH Kuching unsurprisingly recorded the most enquiries with 5,208, followed by DIH Miri with 2,558 and DIH Bintulu with 2,023. These mean that the DIHs are collectively receiving an average of 250 enquiries monthly, indicating that their position as a contact point with the surrounding local community has achieved its target. They are recognized as a community centre, an event venue, a knowledge source and a workspace that serves local needs.

From the above enquiry numbers, the DIHs have recorded a total of 612 Coworking Member registrations and 138 virtual office registrations. DIH Kuching recorded the highest registrations with 217, followed by DIH Bintulu with 214 and DIH Miri with 181. This indicates two things—that there is a clear demand for digital education, innovation and entrepreneurship in Bintulu that is on par with the more urban and highly populated Kuching, and that the notion that Kuching is the main location

for everything in Sarawak is not exactly true in this case.

Also from the above enquiry numbers, the DIHs recorded a total of 283 programmes and visits throughout the September 2017-March 2021 period. DIH Kuching leads the way with 172 programmes and visits, followed by DIH Miri with 63 and DIH Bintulu with 48. These numbers further support the above assertion that the DIHs are recognized in their local communities—Kuching sees at least two programmes and visits on average monthly, while Miri and Bintulu sees one each. This means something will always happen every month at each of these DIHs, a proof that they have become a choice for (digital innovation and entrepreneurship) events and programmes in these cities. One just has to look back and wonder how many such events were happening before the DIHs were created, especially in Miri and Bintulu. It won't be unreasonable to say that these numbers are comparable to some of the many similar hubs operating in Selangor and KL.

In this regard, the **TEGAS** Digital Innovation Hubs have been a qualified success.



The DIHs have also received a total of 780 participants across all their key acceleration programmes during the same period. There are two ways to appreciate this number. If you look at it with a simplistic view, these numbers translate into a rough average 25 participants monthly across all the hubs. This means that 25 local talents make these DIHs their homes every month, growing their startups and social enterprises. This is a simplistic and reductive view because things don't grow and evolve linearly, so the numbers should be much lesser during the earlier months. That said, the fact that 25 founders participate in a DIH acceleration programme monthly means the DIH has managed to establish itself.

A deeper and more critical view would be to look at these numbers based on programme types, and assess the effectiveness of the DIHs based on that.

The Sarawak Shell LiveWIRE(SSL) programme records the highest number of participants with 310 during the 32-month period. From this number, a total of 30 early-stage startups and social enterprises were selected for the programme. The next programme that recorded the highest participants is Startup Weekend with 136. From this number, 25 startups and social enterprises were selected for the programme. The **TEGAS** Pre-Accelerator Bootcamp (TPAB) recorded a total of 109 participants, with a total of 40 startups and social enterprises pushed for the programme. The remaining programmes - **TEGAS** Startup Lab (accelerator), Social Impact Accelerator, EntreCamp, Youth Founder Mentoring Programme, Founders Incubation Ideation Programme and UNDP Youth Co:Lab - recorded 28, 9, 121, 24 and 12 participants respectively. These six contribute a total of 86 early-stage startups and social enterprises.



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A speaker session during the TEGAS Pre-Accelerator Bootcamp in 2018

From this total of 780 participants, 195 early-stage startups and social enterprises were given a leg up during the most crucial stage of their development. There are no official numbers of Sarawakian startups and social enterprises pre-SDES, so a comparison can't be done. What is clear, though, is that from September 2017 to

March 2021, 195 startups and social enterprises were given birth by the DIHs. These are 195 potential new Sarawakian ideas, brands and businesses launched, and entering the market.

It is clear—the DIHs have been successful.



TEGAS Pre-Accelerator Bootcamp – Taking Startups to the Next Level

The **TEGAS** Pre-Accelerator Bootcamp (TPAB) is a one-week programme for early-stage startups to validate their ideas and create an MVP (minimum viable product) and a go-to-market strategy. It prepares them for Demo Day, and 3 winners get a chance to pitch to potential future investors as well as participating in the **TEGAS** Startup Lab (accelerator), Social Impact Accelerator, and Sarawak Shell LiveWIRE. The Demo Day winners receive a package that includes company incorporation support and a 3-month access to DIH.

In 2019, 75% (15/20) of the startups have gone on to found and/or sustain their businesses. 70% (14/20) have received pre-seed/seed funding/grants or have surpassed revenues of

RM100,000. This is a high initial success rate for the programme, as these numbers prove that their modules and mentoring have sufficiently prepared these startups and social enterprises to navigate their businesses in their early

days without further push or support. From the total TPAB participants, 15% (3/20) of the companies have advanced to the **TEGAS** Startup Lab and Sarawak Shell LiveWIRE programmes, a positive benchmark-setting conversion rate. This challenges the startups and pushes them to aspire and maintain a higher performance and standard.

Some of the success stories of TPAB are CtrID and Miracolo.



CHAPTER 6 A DIGITAL BORNEO



A workshop during the TEGAS Pre-Accelerator Bootcamp 2018



TEGAS Startup Lab - Accelerating Growth



Participants of the TEGAS Startup Lab Batch 2

The **TEGAS** Startup Lab (TSL) is a five-month seed/early-stage venture accelerator programme founded on the belief that connecting local startups with the right mentors, investors, and industry experts are the right way to achieve scale and generate explosive growth. Participants receive mentoring by seasoned entrepreneurs and industry experts, access to grants, funding and **TEGAS** Digital Innovation Hub and Digital Ecosystem Network.

Successful startups include WeGO (an online bookings and food delivery service), Borneo Digital (online technology media company), Volume R&D (cloud kitchen startup) along with the previously mentioned CtrlD (a creative tech studio) and Miracolo (beauty tech company that focuses on clean and safe products).



Sarawak Shell LiveWIRE - Promoting Entrepreneurship



Winners of SHELL LiveWire 2019

The Sarawak Shell LiveWIRE is Shell's flagship global enterprise development programme that aims to unveil potential startups in Sarawak to provide real business solutions in solving the state's socio-economic needs. **TEGAS** is the main partner for this programme, where its 5 winners will receive a RM15,000 business grant from Shell Malaysia and **TEGAS**, coaching and mentoring along with access to the Shell Malaysia Value Chain and access to **TEGAS** Digital Innovation Hub and Digital Ecosystem Network.

Successful participants include Worming Up that won the Retail Supply Chain category in the Shell LiveWIRE Global Top Ten Innovators award, defeating finalists from the UK and

Brazil. Another local company, Brique Engineering Solutions, emerged as runner up in the Social Enterprise category. Ahmad Tamar, SPORTSHUB, ombak and Pie House are other notable winners from 2019.

Sarawak Shell LiveWIRE has provided post-startup support to 13 active businesses between January 2019 to April 2020. These successes have slowly been making waves in the country—Sluvi Company was featured in Maxis Business' #KitaSapotKita campaign in April 2020 while Ahmad Tamar was awarded a contract to supply dates to the Mesra shops at Petronas petrol stations throughout Malaysia during Ramadhan 2020.



Assessment 2

Digital innovation and entrepreneurship

*based on the Impact Study Report (July 2020) titled "Effectiveness of **TEGAS** Digital Innovation Hubs (DIH) in Promoting Digital Innovation and Entrepreneurship in Sarawak" by Blankscript*

Between March to May 2020, the participants of the #InnovateSarawak Speaker Series, #InnovateSarawak Workshop Series, **TEGAS** Pre-Accelerator Bootcamp, **TEGAS** Startup Lab and the Sarawak Shell LiveWIRE were surveyed by Blankscript to measure the impact of the **TEGAS** Digital Innovation Hubs (TDIHs). They were joined by participants of various other **TEGAS** partnership programmes and **TEGAS** partners such as Shell, Grab, Swinburne and TERAJU, plus other DIH co-working space members.

This impact measurement survey had three focus areas - Promotion of digital innovation and entrepreneurship (KFA01), Stakeholder management (KFA02) and Meeting stakeholders' expectations (KFA03).

The survey found that 96% of respondents agree that the DIHs have succeeded in serving its purpose as a platform to help build the Sarawak Innovation Entrepreneurship Ecosystem (IEE), and that the DIHs has helped stakeholders understand the state government's efforts and initiatives in pursuing its digital agenda.

89% of the respondents stated that they were introduced to key ecosystem players by the DIHs' efforts. They were very supportive of the DIHs - 74% saying they received strong support from the DIHs for their needs, 74% said they learned to become better partners and 72% said that the DIHs helped them run their programmes more effectively and improve on their businesses/business ideas.

However, a clear opportunity for improvement is helping startups connect with industry experts and business mentors. Not too many agreed that the DIHs provided them with these opportunities, with the 67% who claimed this are made up of 17% who disagreed and another 16% who felt neutral about it.

A total of 76% stakeholders have agreed that the DIHs have generally met their expectations, with some improvements are welcome. A substantial 24% agreed that there are areas that need improvements to meet the stakeholders' expectations. Most of these expectations come under the need to supply better subject matter experts that are less isolated from the startup community and aren't



affordable to them. A substantial percentage (30%) pointed out that DIHs programmes are more educational and informational instead of being hands-on business management skills. It has also been pointed out that the stakeholders observed that the key startup ecosystem players are not synergized with each other.

From the respondents' comments and responses, there are 3 clear opportunities for improvements. Firstly, the DIHs can do better to get corporations to collaborate more with startups in terms of helping them grow through the gig economy initiatives such as hiring the startups for their products or services. Secondly, the DIHs can do more to link universities startups by the universities sharing their research and academic findings to nurture new ideas and products. Lastly, the DIHs should work together with the government and the public sector in implementing more "Challenge Grants" to encourage startups to come up with innovative solutions to real socio-economic problems in the state.

The **TEGAS** Digital Innovation Hubs (DIHs) have largely been successful. Most of the feedback on what they can do better can

(for now) be categorized as growing pains -fundamental things that will be ironed out as the **TEGAS** synergy matures and gains more experience. Most of the things that they can improve now fall under meeting stakeholders' expectations and stakeholder management.

Under meeting stakeholders' expectations, things that the DIHs can improve on are pushing for more active involvement of subject matter experts with the local startup community, driving better synergy amongst key startup ecosystem players, providing more hands-on programmes, business management skills, collaborating with relevant organizations to get startups more involved in solving real local socio-economic problems, pushing more active sharing of valuable research and insights (by universities) with the startup community and pushing for GLCs to hire startups for products or services. Under stakeholder management, the only feedback was that the DIHs can do more to create some kind of integrated platform - online or offline - to link industry experts and business mentors with the startup community outside of DIHs' programmes.



Assessment 3

Digital startups and social enterprises

based on the Sarawak Digital Ecosystem Report by Startup Commons

Without connectivity, physical or digital, segments of Sarawak have been working in isolation of each other up until a few years ago. An exception to this case would be Universiti Malaysia Sarawak's successful eBario Project in 1998 onwards, which connected Bario in the Kelabit Highlands (accessible by 45-minute flight by Twin Otter, or 10-14 hours by 4WD on logging road) to the outside world via telecentre.

Although the telecentre has become outdated by today's standards with improved technology and increased availability of connection options, providing this remote rural community with ICT capabilities enabled them to initiate their own electric commerce platform at the beginning of the knowledge economy and promote itself as an idyllic tourism destination many years on.

Today, with concerted efforts to bridge the physical divide by going digital, more holistic planning has gone to develop a digital-ready workforce right from the school-level, to gaining increased engagement and buy-in among rural communities on the use of ICT for education, business and entrepreneurship through statewide awareness and upskilling programmes under the Sarawak Digital Economy Strategy's Digital Inclusivity cluster.

Digital Inclusivity (otherwise known as Strategic Action No.47 of the Sarawak Digital Economy Strategy 2018-2022), which focuses on instilling basic computer literacy and a solid knowledge of the Sarawak Government's digital economy agenda is a soft approach to what Startup Commons (a non-profit association from Helsinki, Finland) recommended in their October 2019 "Sarawak Digital Ecosystem Assessment Report" which is far more aggressive and holistic in its recommendations to creating a digital ecosystem.

Among Startup Commons' recommendations are building a shared vision among different stakeholders in order to realise the Sarawak Government's vision of accelerating the state's 2030 economic agenda.

One of these recommendations included creating startup knowledge booklets, to ensure that everybody in the ecosystem had a common, standardised understanding of startups and startup development phases. As a respondent said in Blanksript Consultants' report, "Personally, I had been turned down by clients from the private sector, even after showing my previous works, due to my company being a 'startup'—in their definition, a young company."



In addition, Startup Commons recommended innovation entrepreneurship education, with a view of setting up a licensing model so that local ecosystem actors in every city were able to promote, organise and certify local organisations, coaches and trainers. In addition, this would help spread a common understanding about innovation entrepreneurship in ecosystems around the different cities and help produce and increase the volume of successful innovative companies.

Various existing government organisations have been involved in developing the ecosystem, including **TEGAS** (Tabung Ekonomi Gagasan Anak Sarawak) and Centre of Technical Excellence (CENTEXS) as proposed new hub operators, the Ministry of Local Government and Housing on integrating and consolidating programmes with Community Resource Centres (CDC) at the district level as part of the wider Sarawak ecosystem, as well as national-level organisations such as the Malaysian Business Angel Network and Malaysian Technology Development Corporation (MTDC) and crowdfunding pitching platforms like pitchIN.

Apart from seeing more schools involved in talent development - 47,522 students across 386 schools exposed to STEM education, a total of eight Sarawak schools have also made it to national and international STEM competitions, including in South Korea, China and Jakarta.

The gift that the digital economy is for Sarawakians is in its governance model. As Startup Commons defines it, startup ecosystems are not considered owned or controlled in the traditional sense by government or private organisations, but by organic multi-stakeholder structures, which, managed effectively can combine both bottom-up and top-down activities.

With the digital economy and the startup ecosystem, Sarawakians, through startups and social enterprises can provide real business solutions to meet today's socio-economic needs, in turn creating a more self-sustaining and self-reliant community of Sarawakians.



6.1 Success Stories

In this section we speak to ongoing early successes of the Sarawak Innovation Entrepreneurship Ecosystem (IEE) to learn more about their stories.

Timogah.com

Connecting non-digital natives to the digital ecosystem



When Heineken Lalan first started his online marketing platform, Timogah.com, his first supplier was a man carrying local jungle produce called 'rebung' or bamboo shoots in a traditional rattan basket. Today, that image of a rural Sarawak farmer has become the logo for the mobile-based marketing platform Heineken began in November 2017, a platform which not only connects customers to local rural farmers, but also the non-digital community with the digital.

A Bidayuh man from Bau, Heineken's main goal with Timogah.com has always been to help local farmers, not only to market their produce but also help them with the simple task of uploading pictures of their produce onto their platform.

"Timogah.com helps to reduce the gap between rural farmers and urban dwellers, for rural farmers who have always experienced problems in terms of logistics, and connectivity. Instead of them having the additional task of

registering their own online marketing accounts to showcase their produce online, we reach out for them to use our platform," explained Heineken.

Timogah.com provides the facility for purchasers to order and pay online, while they collect the orders from rural farmers and local wet markets like the tamu.

"We have created a positive impact for rural farmers, as well as made it easy for customers by delivering produce straight to their homes," replied Heineken, who, at the time of writing is a semi-finalist for the Shell LiveWIRE Top Ten Innovators Awards in the Local Prosperity category.

Timogah.com emphasises a lot on local Borneo jungle produce like midin, ensabi, engkala, dabai, empangan and other fresh produce that is known and unique to Sarawak and Sabah but becoming better known in Peninsular Malaysia.



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With Sarawak gearing up to becoming a major food basket in 2030, Timogah is also indirectly contributing to that vision as they also help farmers produce based on demand.

“We advise the farmers to plant-based on demand, then we help them explore smart-farming. If they have the capital to scale up, then we can help them increase their farming,” he said.

He has seen the benefits from the ground himself. Where one particular ‘rebung’ seller earned RM50 one week, now he returns with produce three to four times a week. In addition, Heineken commented that conventional farmers who sold produce at the roadside, now can see the demand and now plant more as they can sell their produce through Timogah.com as well as through their own personal channels.

“With Timogah, you don’t have to be digitally-savvy to be part of the digital economy,” said the 36-year-old Heineken, who explained that Timogah has runners set up at various wet markets to coordinate with the local farmers and sellers in its daily operations, connecting them with online customers in real-time and thereby providing them with more income generation alternatives. Indirectly, the Timogah platform is also helping the local economy, with minimal (if any) adjustments to be made from their side.

Timogah.com provides solutions for rural farmers, by helping them market, and distribute their customers via mobile app, combining the convenience of online grocery shopping and delivery service to provide a solution for rural farmers.

It unexpectedly became a vital service during the Movement Control Order for both vendors and customers, enabling the continuation of business through the lockdown, especially for the vulnerable agricultural sector.

The biology teacher turned online agropreneur believes in leaving a legacy behind, hence the name ‘Timogah’, which in Bidayuh means ‘famous’.

Timogah.com acts as a social enterprise of sorts, cancelling out the middleman, and providing local produce sellers with an additional financial outlet, gaining buy-in from a sector which lacks digital connectivity.

In addition, it provides job opportunities for those with lower income, as they act as riders or drivers to carry produce back and forth.

Timogah also happened to be one of the **TEGAS** Pre-Accelerator Bootcamp alumni from 2019, which includes Miracolo, Hello Gabby, Vroom, Volume (Research and Development) and Uncle Green. From Sept 2020 to Feb 2021, he participated in **TEGAS**’s Social Impact Accelerator.



Miracolo

Promoting local-made clean beauty products



The co-founder of local beauty brand Miracolo remembers how difficult it was to gain support for local products when she first started manning pop-up booths in shopping malls in 2013. Before there were regular arts and crafts fairs which popularised Sarawakian products, Diana Su had the challenge of overcoming the stigma associated with Sarawak-made, let alone Malaysian-made. Today, she and co-founder Bernice in their own turn support local artisanal beauty brands on their site Miracolo.

Initially, the idea for Miracolo came following Diana's father's struggles with cancer in 2009. As Diana's family strove to reduce the impact of the cancer on her ailing father through clean-living and healthy lifestyles, it occurred to her that clean-living was not just about healthy eating, but beauty products too.

The urgency for an ingredients scanner came after Diana's own struggles with hyper-sensitive and dry skin from the range of cosmetics at the time.

"That's when I thought, wouldn't it be great if we could scan our products to pinpoint and scan for products that irritated our skin?"

"So I began to take notice of ingredients, and observed that there were many toxic products in our beauty products. At the same time I had been introduced to essential oils, and beauty brands only using only natural ingredients."

Back then Miracolo started off carrying other brands products—mostly Sarawakian-based—and only started making their own essential oils products in 2016 and 2017.

During Miracolo's one-week stint in a **TEGAS** Pre-Accelerator in 2019, where early-stage startups can develop their ideas into minimum viable products and plan their go-to-market strategies, Miracolo advanced to **TEGAS** Startup Lab and later managed to raise RM50,000 in funding from WatchTower & Friends for her beauty tech programme.

Through the beauty tech programme, Miracolo would focus on a clean beauty platform to educate the consumer on how to read the ingredients from their beauty labels. She explained that the beauty tech programme would be a database of ingredients in beauty products to which consumers could check on their safety ratings.



"For example, I myself have very sensitive skin, so when I try different things I will get inflamed skin, itchiness and it's very frustrating. I might not know what caused it initially, but I could use this database to check whether there are any parabens in my product, and I could do a check on how safe it is," she said.

Based on scientific research and reliable sources, she explained that the database would help the consumer make educated choices on their skincare.

By the end of 2019, Miracolo switched from the traditional brick-and-mortar model to be exclusively online. Their plans for the beauty tech programme also had to go on the backburner due to the constraints of the pandemic.

"It's not easy to maintain a traditional store, you have to worry about the operations, the sales floor, team maintenance, staff and promotions. So with our online operations, it was a blessing in disguise looking at the Covid-19 situation this year," she said, adding that Miracolo's online marketing strategy has also come to include live video on their Facebook and Instagram accounts, where she and Bernice discuss their products and offers.

Through **TEGAS**, they were exposed to better ways to strategize, such as the business model canvas, and learn how to bring their business forward. At the same time through **TEGAS** they got to network around with other startups, learn from them, and help troubleshoot problems on their own platforms.

For Diana, who used to work in the banking sector in Kuala Lumpur, she's used to the more aggressive entrepreneur scene there and was pleasantly surprised when **TEGAS** helped form the ecosystem here in Sarawak.

"**TEGAS** is a very good eye-opener for both of us because it really forces us to think out of the box. We couldn't imagine having able to do these incubators, or participate in a startup ecosystem here in Sarawak."

Besides promoting a clean and safe skincare regime, helping Sarawak brands become a household name here remains one of Miracolo's main focus.

"Because of the amount of rejection from local consumers in the beginning, we understand what local businesses are going through. So let's be a platform for them, help them market whatever products that they have."



CtrlD

Telling Sarawak stories through multimedia



If 23-year-old Suan Goh was told that she would be running her own creative tech studio focused on storytelling and interactive media a few years ago, the visual designer wouldn't have believed it.

Thanks to the potentials of "Ano: A Journey through Tattoos" a mobile game she and three of her classmates launched in 2018 as a final year project under a team named "Fouracle", their lecturer helped her and eventual CtrlD Studio co-founder Joshua Chung see the prospect of starting their own company.

"After we finished the semester, we got quite good feedback from the lecturer, who suggested that we take it a bit further, so we continued to polish it more into 2019," said Suan, describing that she and Joshua took that project into the **TEGAS** Pre-Accelerator and then **TEGAS** Startup Lab.

CtrlD stands for design, development and dimensions. As multimedia designers focusing on developing apps and Extended Reality entertainment, Suan and Joshua make a complete package as Suan works

on creativity and design while the latter manages back-end development.

"Sometimes I do think: Should I have gone to get experience in working for someone else? But at the end of the day I do think that I at least tried to start my own company," she said.

As a new creative industry player in a state that just jumped on the digital economy bandwagon seemingly overnight, however, they did face the initial challenge of coming up with a strategy.

"Being the kind of startup that we are, it was difficult to get our name out there. The **TEGAS** Startup Lab, moreover, made us realise that our model was a little different from the other startups there, and we had to tweak our model quite a bit because we weren't sure what to do.

"There are some strategies that maybe the other companies may be able to use, but we wouldn't be able to apply to ours. We also felt like, even though there is a creative industry here, we felt it was a bit difficult to fit ourselves in."



She commented that although the Sarawak government through SMA had already taken the initiative to grow the creative industry in the state, it was still behind in terms of arts and design entrepreneurship.

"I think nobody sees art and design as an entrepreneurship journey yet, especially those with traditional parents.

"I do hope that the programmes like the Startup Lab can create programmes purely for creatives who'd like to take that adventure."

Despite the sparsely populated environment or creative opportunities for creative designers in Sarawak, CtrlID found that it was still able to pivot towards what they wanted to

do ultimately, which is focusing on its own IP creations such as "Ano: Journey through Tattoos" because the game is a cultural game based on a cultural story.

"We found that people love cultural stories and that there is a demand for it, but nobody is tapping into that yet, especially in terms of a game that is based on something Sarawakian," said Suan, who shared that CtrlID's goal now is to be storytellers, and to tell stories, especially local ones, through interactive media.

This particular niche worked out for them last year, as they landed two government projects in 2019 with the Sarawak Museum.



The Tuyang

A different Sarawak

Like how Datuk Patinggi Abang Zohari saw a different Sarawak once he took on the Chief Minister role, Juvita Wan sees - and wants—a different Sarawak for Sarawakians. But while she subscribes to her Chief Minister's digital vision, her perspective is entirely different.

"My late grandfather was among the earliest in our community who could read in the village. He helped the missionaries at the time with their work, translating for them and liaising on their behalf. His experiences left a deep impression on the importance of education, so he made sure that my dad received better than he did by sending my dad to study in the next village. Then my dad came to Miri for college before moving to West Malaysia to further his studies at UPM. This enabled him to have a fruitful career with Petronas. This was how he managed to give his family and himself a different life—we all travelled with him for his work, living in Kota Kinabalu, Kuantan and KL."

This was a rather familiar path to a better livelihood for many generations of Sarawakians since the late-70s. However this path is not a common one—it is only a viable option for those living in the few

Tuyang

major urban areas in the state, and is a dream for most living in the more rural areas. Juvita Wan grew up seeing this disparity widen throughout her adolescence and teenage years, and it left her disillusioned and deeply unsettled by the year.

"One thing that my father never failed to do was take us back home to our village and longhouse in Sarawak, no matter where we lived at the time. He felt it was his duty to raise his family as a one that understands where they come from, and one that will always go back to their roots. He needed it for himself too, (as a) sense of belonging. So every time I go back, I keep noticing how my community became more and more different than how I remembered them when I was smaller.

In the early days, my community wasn't all about the ringgits and sens but was more about taking care of their people and community. They did so by spending a lot of time practicing their heritage and culture—agriculture, customs, communing etc. I remembered them being more conscious and spiritual when I was younger. Everything felt simpler then. It was like everyone in my community was a superhero. Male or female, they could do everything—



hunting, fishing, beadwork, farming and so much more. But as I grew older, every time I came back I saw them being less at peace with themselves. There was a lot of pain and struggle—those who were from my generation were anxious about generating income for their families and community but never understood why. They couldn't reconcile these new, modern goals imposed on them with the values that they and their elders grew up with. There was a lot of fear; a fear of loss I felt for them so much; it was something I couldn't let go."

This deep unrest that came from Juvita's upbringing was a long fuse that sparked The Tuyang (formerly known as The Tuyang Initiative). A Kenyah word that means "friend", The Tuyang (TT) is a social enterprise that aims to empower Sarawak's indigenous cultural guardians by providing them industry-relevant skill sets so they are able to actively participate in the creative and cultural sectors. The name reflects their approach—non-intimidating, coming from the community themselves.

"We're not outsiders. We are also part of the community, even if some of us may have had a different upbringing. We share the pain and struggle. So TT (The Tuyang) is designed to feel more like a buddy in mind. We want them to be able to talk to someone else about their fears and anxieties, about solutions."

Juvita's 10-year experience in production, business development and product marketing

with the likes of M&C Saatchi, Universal Music and Maxis gained her a unique set of experiences, skills and perspective that helped her eventually come up with a meaningful business idea to help her community. It helped her understand that the situation stems from years of complex, systemic issues which cannot be solved immediately.

Realizing that the communities were losing their elders to old age and youths to the towns and cities, she asked herself what she could do - as they move with the times, how can the communities gain meaningful livelihood? How can they do so without having to compromise their values and lose who they are? How can they leverage on their inherent strengths?

That was when the TT pin dropped—their unique cultural heritage as a people.

"A lot of our cultural practitioners are multifaceted—it's not like adopting an arts discipline and studying it. These cultural practitioners embody what they do, they live it, therefore they practice it, from storytelling, to singing, to dancing to woodwork, to playing instruments."

So Juvita and her dad (who had retired) returned to Sarawak to set up a community-led initiative spearheaded by experienced members of the community. The core team—including her and her father - are Dayak, and are active cultural practitioners. Our first practitioner onboarded to our roster is Mathew Ngau Jau, Sape' master and



Malaysia's Living National Heritage. Currently they are managing more than 20 cultural practitioners, coming from a healthy mix across disciplines from different communities such as storytelling, singing, dancing, woodwork and instruments. These practitioners are multifaceted and they embody what they do as a way of life.

The Tuyang conducts upskilling classes where they test their cultural practitioners on digital competency, business and finance, and more. In 2021, they will be working with the British Council to conduct training for rural craft artisans to help them develop into all-rounders so they can eventually take lead from concept to crafting to the business side of things.

Systemic problems in the education system experienced by the rural communities in Sarawak have left a lasting impact. Juvita is among the fortunate minority that was able to navigate through that effectively and positively. Most of her peers—and juniors—didn't have such luck. "This is not about luck; it has nothing to do with fate or destiny. It is about identifying something that isn't working, and doing something about it. Some of us were more fortunate than others. Our experiences helped us understand our situation, coming to terms with them to gain agency over our own lives and livelihoods. The Tuyang is our way of

doing it." Juvita reflects passionately. And she is right—we can discuss and study about cause-and-effect, but it is what we do at the end that makes the difference.

Juvita observes that not much has changed in the last 30 years (she noted that only school sizes have increased). Rural Sarawakian youths still get primary education in one village, then moving on to the next (larger) village for secondary education, before finally uprooting for the city for tertiary education. In her opinion, the national education system needs to incorporate elements of local community learning, so that it can translate everything taught in the classes into skills that can support local indigenous communities and culture. The curriculum needs to be for life and livelihood, and not knowledge and knowledge's sake.

The Tuyang aims to fill in these gaps. And this is where **TEGAS** and the Sarawak Innovation Entrepreneurship Ecosystem (IEE) comes in. "**TEGAS** has created a platform for me to meet with other like-minded entrepreneurs. It has helped us share our experiences and challenges. It has helped us bond and bounce ideas. Entrepreneurship is not easy. It's not just about being a self-starter, you also need to feel confident about the steps you take - and if you're a solopreneur, or doing something that's completely new - it can get unnerving.



So having a support system in the form of the **TEGAS** Startup Lab (with their community of entrepreneurs and business coaches) is something I am very grateful for.

The Tuyang joined **TEGAS**' Startup Lab in its very early stages. Throughout their year in the startup lab, they managed to meet industry experts and other like-minded entrepreneurs with whom they could share their challenges and bounce their ideas off of.

"As a small inexperienced team, we were having an issue with cash flow (as we were bootstrapped), and articulating what we do because the concept is foreign to many (people thought we were a non-profit organisation)."

TEGAS has helped us cope with our growing pains. They have been a loyal promoter, constantly connecting us to various

different partners such as local agencies, companies, universities and more. They have also given us a home—we're a tenant at **TEGAS** Digital Innovation Hub Miri."

The support from **TEGAS**—and the Sarawak Innovation Entrepreneurship Ecosystem (IEE)—has allowed TT to reach out to more communities, and find more avenues to generate work and income for the communities, essentially spreading Sarawakian culture further. Their support is helping TT help plug the socio-economic gaps that stemmed from the national education system which Juvita had observed above. If anything, this is the best proof that the Sarawak Digital Economy Strategy (SDES) 2018-2022 is needed—it ensures that Sarawakian communities and heritage will be able to live on and take charge of their own digital future, on their own terms.



WeGO

Awareness, Exposure, Opportunity



WeGO is a flagship platform under Solaku Sdn Bhd, a tech-first Sibu-based company that aims to add value to Sarawakian lives via WeGo and its 8 other digital platforms. WeGO is a Sarawakian super app currently finishing up its beta testing for a live rollout by Ramadhan 2021. It will include the core functionalities of delivery, e-Hailing and marketplace that will complement its unique localized Services offering. This offering will mainly consist of WeGO Helpers who offer community-based expertise and needs such as midwives, wet cupping (bekam), massage and cleaning. While it may seem like a localization of the famous Indonesian brand Gojek (Gojek did help provide a reaffirming inspiration at a crucial point of the startup's journey), there is a deeper more profound story behind Solaku's leading digital offering.

"When I started out in 2016, I didn't know a lot of things." Founder Mohammad Hisham Khairul Nasir began. "To be honest, I started out for fun. Just before my mother retired, I helped accompany her to run errands such as buying groceries and stuff. When I realized that this was a regular thing and there were quite a few things that she needed to buy, I got 2 runners to help me out. We worked out a system, and used Whatsapp to operate.



Soon my mother got her friends to join in, and we were helping her friends with their groceries and errands. It carried on and became its own thing. At the time I had just graduated my MBA and I didn't think too much of it—I thought I was meant for better, bigger things than just operating a grocery delivery service for my mother."

This early version of WeGO was called BeliBeli24. It was very basic and straightforward—"business kampung", describes an honest and down-to-earth Hisham. When it carried on into 2017, Hisham decided to just go with the flow and see where it would lead. "I joined an MOF



programme for entrepreneurs in April and realized that BeliBeli24 had potential. So I practiced the things I learned from the programme upon returning, and around late-2017 I was surprised to learn that we received recognition from MOF (via the programme) and we were given the opportunity to travel to Indonesia and China to expose ourselves to the entrepreneurship landscape and ecosystem there."

The Indonesian trip was an eye-opener for a couple of reasons. "Like many of my peers, for some reason I had the impression that Indonesia was not as advanced as we are. I'm not embarrassed to admit this because it is true, and I'm forever grateful for the opportunity to travel to Jakarta. When I was there, I saw how impressive its digital ecosystem was. I was totally impressed. There was one point when we were waiting for something and I saw a lady standing by a Gojek. She was standing there for a long time, looking at her phone. I was wondering what was going on and asked my Indonesian friend. He then told me that she topping up her credit via Gojek. I didn't understand so I asked him to explain. So actually the culture in Indonesia is that they have less trust in banking institutions, so they trust Gojek to transfer money for them instead. They are really comfortable with cashless payments, like in China. I'm not trying to compare Sarawak to other countries. I'm just comparing the culture. They are so advanced."

This can-do attitude he witnessed in Jakarta (and later in China) was inspiring. But it didn't leave as deep an impact as his dinner with the late Ashraf Sinclair. "Jakarta really opened my eyes. When I was there I managed to meet the late Ashraff Sinclair with a small group of other Malaysian and Indonesian entrepreneurs. He was a really really passionate entrepreneur. I thought he was just an actor. But actually, he had several successful businesses. He shared a lot of stories. About potential ideas. About the different mindset between Malaysian and Indonesia. Indonesia has a very strong entrepreneurial mindset. And Ashraf embraced this mindset. So I shared my business idea to Ashraf. And he gave a critical but constructive feedback about it that made me sit down and rethink everything. I really learned a lot."

Hisham's story is not unfamiliar to many Sarawakians. He, like the many Sarawakian business owners and entrepreneurs he knows, come from a more contented and less challenged mindset. Business kampung, as he said. He was also disconnected from government agencies, be it state or federal. So when the Sarawak Digital Economy Strategy (SDES) 2018-2022 was launched, it went under his radar. But life is all about timing, and for Hisham, the end of 2017 was a momentous period. MOF called him to go to KL to receive an award (resulting from his participation in their programme in April 2017), along with an invitation to visit Indonesia.



"When I was with Ashraf (Sinclair), he asked us all one question about purpose. I couldn't answer the question. He asked us what we want to do once we get rich. I didn't know the answer at the time. Then Ashraf told us that we must give back to society. It is the right thing to do. So when I came back from Jakarta I organized a big event for BeliBeli24 and Solaku where I showcased all our merchants and their products, and invited all the people I had gotten to know through MOF -MDEC, **TEGAS** and all.

This event was crucial for us. It received a lot of attention and support, and convinced us that we were doing something right. But it also made us realize that we are not connected with the digital ecosystem in Malaysia. We learned that we needed to raise ourselves and become better faster. We call ourselves digital entrepreneurs but we couldn't provide a WIFI connection for the event. MaGIC questioned us why we had to advise visitors to bring their own hotspot. This was also the event where we learned about SMA, **TEGAS** and the Sarawak Digital Economy Strategy. After that, we realized that what we are doing is worthwhile, and that's when we put everything we had into it."

Hisham's story is a reminder of the challenges that await the Sarawak Digital Economy Strategy (SDES) 2018-2022. His ignorance is common amongst the less urban and more rural areas of the state. It is a symptom of a socioeconomic disconnect that stretches beyond simple geographical limitations. "When I met SMA and **TEGAS**, I was wondering

why I didn't know about all this earlier. There are a lot of people like me. The awareness is low, and even when we know they exist, we never really understand what they are until we are in it ourselves. We never knew this kind of facility and support exist. We are so lucky to have met them and joined their ecosystem."

Hisham never looked back from that point onwards. He joined Batch 2 of the **TEGAS** Startup Lab and from there, evolved BeliBeli24 into WeGO. The name is symbolic of his journey—there is a sense of collective realization, a rally to push through and pursue the Sarawak digital vision. And he is not just trying to build a business. He's looking to build trust.

"I want WeGO to be a platform where you find all the nicest people. We want to build a trust where you will see the same people that has served and helped you again 2-3 years into the future. Because WeGo provides trust and stability." And this vision is shared by their new Singaporean partner, who is actively looking to bring WeGO into the local Singaporean market. "In Singapore, there are a lot of people with unique expertise and skills that serve the local community who lost a lot during COVID-19. Like bidan (midwives), mechanics and all. WeGO is an opportunity for them to recover. Our partner in Singapore has a network of sellers and service providers who have been looking for a platform like ours, and they wish to provide jobs to these people. Something like Gojek and Tokopedia."



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This isn't Hisham's only way to giving back to society. He is really taking the late Ashraf Sinclair's advice to heart. "We have so many ideas. And we want to do them all. If it's feasible, we do it. Like right now we are exploring a solution to help youth employment in Sarawak by studying how we can use something like Tik-Tok for job searches. There is already a similar platform in Norway. It is possible. In the future, we also want to develop a feasible solar energy market in Sarawak where we can offer employment to install solar panels, while generating extra revenue to sell the reserve solar energy to our energy providers."

Not bad for a self-professed business kampung owner.

The Sarawak digital agenda is still in its early days. But its value cannot be overstated. The Sarawak Innovation Entrepreneurship Ecosystem (IEE) has come at a crucial time in the state's history. A digital economy is more than just about becoming a developed and high-income state. It is about meaningful living. It is about Sarawakians. Like Hisham and his mother.

It is about Sarawak.



Borneo Digital

Making it work

When Azhar was consolidating I Love Kuching and I Love Borneo in 2018 and was looking for a name for the company, "Borneo Digital" was a natural choice. Both these infotainment travel and lifestyle websites are digital platforms that catered to East Malaysian needs; an East Malaysia answer to West Malaysia's Vocket, as he sees it. It sounded fitting—an open name that covers a lot of ground, allowing for future growth and evolution into pretty much anything Borneo and digital.

Borneo Digital is a simple and straightforward name. A reflection of Azhar's own personality and character, it indicated a big vision, but not too complicated for anyone to understand and remember. Two years on, the name has grown serendipitously beyond its down-to-earth origins into an early incarnation of Datuk Patinggi Abang Zohari's vision.

"When I started out I Love Kuching and I Love Borneo, it was simply to fill some gaps that I discovered after returning to Sarawak. There were not enough information on contemporary East Malaysia culture; there wasn't a reliable platform that promoted East Malaysian attractions. It was like we were unknown. I wanted to do something about this problem so that people won't have to feel what I felt."

Successful startups and social enterprises address a need in their market, solving a problem that has been affecting the community.



BORNEO DIGITAL

That is why idea validation is an early focus in a startup and social enterprise's growth. A validated idea is one that has a clear understanding of the problem, translating into a well-defined product that addresses the need and problem effectively. It leads to a more executable and sustainable business plan. On the surface all this will sound like common sense, but they are actual knowledge and skills that one has to be trained and coached for.

These knowledge and skills are attainable by the public only via accelerator programmes, something Azhar didn't have the benefit of when he was starting out.

"When I came back to Kuching from my studies in 2015 there wasn't much going on. And I had a problem looking for nice places to eat. It was hard to find places to go to with my friends during the weekend or find something to do. That's when I realized that there wasn't much information on Kuching or Sarawak online. There was nothing like "Top 10 Things To Do in Kuching/Sarawak" or anything like that at the time. So I tried to do something about it.

I didn't know much about any accelerator programmes or social entrepreneurship at the time. I studied banking and finance but was not practicing—I was running a simple software house instead actually. So I just used whatever I had at my disposal then.



Trial and error. I had to do it myself. I started with Twitter to curate interesting things and places in Kuching. It didn't really take off. Twitter's interface was also not suitable to manage these sort of content. However what I got from Twitter was positive reception from the effort, so I knew my idea can work. The challenge was finding the right platform.

Soon I learned that there were plenty of people sharing about Kuching, Sarawak and Borneo on Facebook. But these were all individual sharings that were all over the platform. Since Facebook made it easy on their API to source for information, so I leveraged on my software house resources to pool all these sharings from Facebook. From there, I checked these sharings out myself and experienced them. Many were great local suggestions that I enjoyed myself. So I began to curate content for myself on my own, and from there moved the idea onto a website. Eventually launched I Love Kuching.

I was really happy with I Love Kuching. It proved that my idea worked. We got a lot of traffic and I was then able to add I Love Borneo to our stable.

We were growing steadily and soon I realized we grew bigger than our initial idea. What was originally a simple idea for content had become a platform for content, not just for us but also for our advertisers. Our product had become a platform. So I contemplated the business direction of the software house and decided to focus on bigger problems.

Eventually we registered officially as BorneoDigital in 2018."

This was not an uncommon path for most startups and social enterprises. After an idea is tested and proven as a solution addresses the problem for the target market, it grows organically as it interacts with its users and surroundings. Borneo Digital is proof of how I Love Kuching and I Love Borneo grew and evolved from content products into content platforms. This growth affects not just the product itself, but also the people behind it. Some startup and social enterprise founders choose to sell off their idea, and move on to new projects. Azhar wasn't as quick to do so.

"At its peak, I Love Kuching and I Love Borneo was great. In 2019 both pages had a combined 14 million Facebook page views. I Love Kuching and I Love Borneo have become a platform for advertisers to push out their content. We averaged 2.5 million page hits across both pages. This brought us a revenue of USD4 per 1000 pageviews, which was very high. Contrast this with our page views during the COVID-19 lockdown - USD0.30 per 1000 page views.

My team and I all grew along with the platforms—we had more human capital, more content and more reach. We've grown bigger and closer from the success of I Love Kuching and I Love Borneo. These were all talented, hardworking locals who believed in what we were doing. We all made it happen together. I had a duty to look after my family of staff, and lose all that we have worked for.



The pandemic highlighted I Love Kuching and I Love Borneo's sustainability. It's monetization depended only on advertisers, which in turn depended hugely on page hits. At the same time, the income from advertisers didn't match the economies of scale of local businesses that are at the heart of I Love Kuching and I Love Borneo. The money we earn doesn't translate to income for the local business operators directly or fast enough, so sometimes collaborating with them for content wasn't really straightforward."

Like many startups and social enterprises, I Love Kuching and I Love Borneo relied on multiple sources of income and funding to sustain themselves. Public and private funding such as grants and investments supplement the income from their main revenue streams substantially. As holistic and idealistic as their products and services may be, they are still inherently businesses that employ people. Revenue and income is a real day-to-day worry, especially for startups and social enterprises that have yet to reach scaleup status. And even if they have reached scaleup status, unexpected events - like the COVID-19 pandemic—can effectively shut the door of these businesses overnight. So they can't be dependent on the public and private funding that they get, and they must take the time to develop the ability to be more robust and resilient to challenges, open to pivoting from their main business activities into other areas to diversify their revenue streams.

This is easier said than done, as the hyperconnected-ness and immediacy of this digital age does not afford businesses the luxury of time. But that very same hyperconnected-ness and immediacy—the heart of this digital age—can also be the very thing that provides the solution to this challenge.

"When COVID-19 put the world locked down, a few things happened that - in hindsight - provided the perfect opportunity for us to grow. Firstly, people stopped travelling and our advertiser income dropped. Secondly, one of our funding sources was reduced to only the marketing budget. As we were figuring out how to move forward, we were granted the opportunity to do the MYHackathon 2020 media content. This resulted in the third thing, where the opportunity with MYHackathon 2020 turned into an opportunity to digitally produce MYHackathon 2020 instead. Fourthly, our team were stranded in KL for around a month during MCO 2.0, which presented us the chance to make some unconventional business decisions that has paid off.

When the MYHackathon 2020 opportunity came, we leveraged on the budget we received to fund our pivot into digital broadcasting. We took advantage in the cost savings in online and digital broadcasting (versus traditional terrestrial broadcasting) to not only buy the necessary broadcasting gear



for MYHackathon 2020 but also to send the entire team to go on a broadcasting crash course during the one month we were stranded in KL. Upon returning to Sarawak, we were able to continue with producing MYHackathon 2020 from Kuching.

MYHackathon 2020 allowed us to evolve into digital event producers."

Borneo Digital's pivot into digital production and broadcasting is fascinating. Azhar's story is illuminating and inspiring. And crucially, it is very real; within the reach of many Malaysians, and more importantly, Sarawakians.

On one hand, it exemplifies the irrepressible spirit of startups and social enterprises. The sheer resourcefulness, allied with an opportunistic streak and a proactive composure in the face of adversity belies their age. Where young companies lack in experience and exposure they make up for it with intent and impulse. Azhar's call to digitally broadcast MYHackathon 2020 in the format and setup that he did was an inspired one. His decision to keep his team together and learn up on digital broadcasting when stranded in KL was a great example of situational leadership. Him upskilling his team with

broadcasting knowledge and equipment was a brilliantly strategic business decision.

On another hand it perfectly encapsulates how the world is in this digital age presently. Programming and production are moving into the digital landscape, and conventional technologies and practices from the age of television are starting to become outdated. Borneo Digital, from their early I Love Kuching and I Love Borneo work, understood content within the context of the digital media landscape and applied that to their MYHackathon content and event production. Azhar and his team focused on pulling live Zoom sessions into a digital broadcast platform which allowed setups to make the sessions look like they were being shot live instead of being done via Zoom. This setup also allowed them to virtually pre-produce all sessions and broadcast them at optimal speed with almost no streaming lag, essentially replicating a typical high-quality live TV broadcast seen at huge national or global level events. This was supplemented with content shot at rented studios in KL and Kuching along with emcees and production crews.

6

Borneo Digital's work with MYHackathon 2020 covered the entire digital broadcast spectrum—live, virtual and hybrid. What's more impressive is that the production was an entirely East Malaysian effort that was pulled off from across the South China Sea along with a host of East Malaysian digital media and broadcasting partners ranging from creatives to production crews. And all this is put into sharper perspective when one learns MYHackathon 2020 was an idea that originated in West Malaysia, but is a completely East Malaysian production.

"When I picked the name Borneo Digital, I felt that it was suitable sebab kita dah sampai era ekosistem digital kan? It is time we use it with our talents and resources to find new revenue streams and unlock the potential of Sarawak and East Malaysia. Right now, we are eager to find business clients who are interested in virtual and 3D events because we have proven that we can do it with MYHackathon 2020.

We also have the perfect ecosystem for it - I Love Kuching and I Love Borneo have over 150,000 followers on Facebook. These platforms offer a ready-made audience and





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Behind the scenes of MyHackathon with Borneo Digital

market for our clients to promote and market their events. Our team is also experienced and skilled—from providing IT solutions via our software house to doing media and digital contents for I Love Kuching and I Love Borneo to doing digital broadcasting, we have a small but thriving digital ecosystem of our own that can help build the Sarawak digital economy."

Borneo Digital is a now full-fledged scaleup; a (digital) media company in its own right. It still runs its I Love Kuching and I Love Borneo platforms—both of them readying for a post-pandemic world. Azhar is even building a training house where he plans to provide digital marketing training to the public, sharing all the digital media know-how he and his team has learned since 2015. This training house will even have its own LMS (Learning Management System) that is developed in-house and has been used by other corporate clients.

Borneo Digital is a sneak peek at a digital Sarawak and—earnestly without wanting to be hyperbolic—a digital Borneo. Pretty much what Azhar had hoped for when he came up with the name, even though he couldn't have predicted the journey.



6.2 Looking Forward

In his opening speech at the first IDECS (International Digital Economy Conference Sarawak) in 2017, Chief Minister Datuk Patinggi Abang Zohari Tun Openg outlined his vision of the state come 2030—a developed state with a thriving economy driven by data and innovation where everyone enjoys economic prosperity, social inclusivity and a sustainable environment.

To create a socially inclusive and environmentally sustainable digital economy, the (digital) ecosystem must be one that can harness the power of digital technology to address the unique and nuanced real-world issues affecting Sarawakians.

The respondents in Blanksript Consultants' Impact Study Report believed it was about time that their fellow peers got to solve problems that could benefit their fellow Sarawakians. A suggestion noted by the report was one where the DIHs could collaborate with the state government or public sectors to implement "Challenge Grants" for startups who managed to come up with innovative solutions to address real-life problems in the state.

It is clear that the vision of Datuk Patinggi Abang Zohari has been implanted into his intended target. The desire to contribute to their home and state has been sparked amongst these first generations of Sarawakian startups and social enterprises. This vision must include more social enterprises of the likes of The Tuyang from Miri, and include them as a fixture and benchmark. They were founded to ensure Sarawak's cultural guardians get the opportunity to gain meaningful livelihood through the arts. They also want Sarawak's culture and traditions to continue well into the future —and thrive. This is what a digital Sarawak can, and would, do.

If Datuk Patinggi's vision for a digital Sarawak bears fruit, one thing that its government must be ready to face is a change in the relationship between the state and its rakyat. The current digital age that we are in are powered by IoT (Internet of Things) and open, collaborative technology. The socially inclusive and environmentally sustainable digital economy that is the state's agenda will see more agency in the hands and palms of its people. Administration and governance will have to evolve to cater to a more decentralized social and market structure,



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Participants of TEGAS Pre-Accelerator Bootcamp 2018

where economies are no longer made up of a huge global value chain supplying the world whatever it demands. The future economy will be one that mirrors the hyperconnectivity of social media and online living. It will be made up of groups of unique local and regional economies connected digitally to the rest of the world, leveraging on its network for unique and specific products to cater to the individual.

This is the digital Sarawak that the state must prepare for. Old politics and governance will no longer be relevant. The dynamics of relationships between the ecosystem members will evolve. Connections will no longer equate to social status and standing—it will quite literally be how fast your internet connection is, and how much you spend your life online engaging your mutuals.



Sireh pulang ke gagang

Building an alumni network for Sarawakian companies with experienced entrepreneurs who left Sarawak was also among the missing services that Startup Commons cited.

Many respondents in Blanksript have commented on the aggressive and more competitive nature of incubators in Peninsular Malaysia, with one commenting that “DIH has limited funding and ability to encourage startups. Many Sarawakians that are starting up in JB, Penang & KL need to (be) lured back to Sarawak to start up in Sarawak. **TEGAS** needs more funds and support from the state government to be the premier digital innovation and entrepreneurship agency in Malaysia. ‘Go BIG or Go Home’. It seems that startup hubs in West Malaysia are attracting the major talents from Sarawak and them Making it big in KL, Penang & JB.”

This is a common narrative that has befallen generations of Sarawakian youths. Reasons for it are deeply rooted in East Malaysia-West Malaysia politics and history. This tendency to leave one's Borneo roots to seek greater fortunes across the South China Sea is also influenced by how the employment in

Sarawak depended on more conventional and traditional jobs and roles outside its oil and gas cities. Lower population is also another factor that limits the growth of commercial markets in Sarawak.

This is why the timing of the Sarawak Digital Economy Strategy (SDES) 2018-2022 was crucial. And startups and social enterprises like The Tuyang Initiative and Borneo Digital are proving that the agenda - inspired or political, this book will refuse to debate - is an absolute necessity that couldn't come any sooner.

The Sarawak Digital Economy Strategy (SDES) 2018-2022 and its digital agenda can do something about this. It has the potential to liberate Sarawakians who were limited by the requirements of conventional businesses. Digital innovation and entrepreneurship will give them more agency, opportunity and resources to forge their own successful businesses. It provides a platform for them to acquire the necessary knowledge and know-how. It is a safe space for experimentation and testing. It is an opportunity to explore themselves and their ideas, gaining validation and affirmation.



Without it, something as grounded, fundamental and profound as The Tuyang Initiative will just remain an idea. Now it is the recipient of the Star Golden Hearts Award, a participant of the UNDP Regional Dialogue for Indigenous Youth Social Enterprise (2020) and has received accreditation of Social Enterprise by the Ministry of Entrepreneur Development and Cooperatives Malaysia (2020). Growing pains aside, they more than just help address the geographical socio-economic gaps in Sarawak, they are doing so in a holistic manner much-needed by its people - by reclaiming their culture, heritage and identity.

Sarawak has many talents and startups, as commented by many survey respondents. Previous generations had to overcome the challenge of competing in specialized industries and careers. The Sarawak Innovation Entrepreneurship Ecosystem (IEE) is a sign that things are finally taking a turn in a way that is more accessible for the common Sarawakian youth. It is the platform that generations of youths have been waiting for - an opportunity to link up with more resources so Sarawakian startups can really grow and be able to represent Sarawak on a bigger stage. Together.

6

A digital Borneo



A digital vision. A digital agenda. A digital family. A digital ecosystem. Before long it will be a digital society. And this digital society will then push Sarawak to 2030 and beyond, becoming a developed and high-income state served by a thriving, self-sufficient and self-sustaining digital economy.

This is the digital Sarawak envisioned by Datuk Patinggi Abang Zohari. One where the likes of Brique Engineering Solutions have inspired dozens of startups to continue and expand on the work they are doing for local fishermen and farmers. One where the likes of CtrlID are making waves in the global creative technology sector, inspiring new creators and content that are based in Kuching. One where the likes of The Tuyang Initiative are helping emancipate indigenous

communities around the world and giving them agency to become equal partners in their own lands.

This digital Sarawak is one that is prosperous, inclusive and sustainable. It is one that did not need to level its mountains and chop its forests any longer. It is one that celebrates the best of Sarawak - it's natural heritage of Borneo rainforests; it's cultural heritage of indigenous diversity; it's historical heritage of helping the region gain independence from its colonialists. It is one where the future of Sarawak is in the hands and palms of every single Sarawakian, just a swipe and a tap away.

The discussions presented in this publication are at best reflections that tried to be as objective as it could be in looking



back at the past 3 years since the Sarawak Digital Economy Strategy (SDES) 2018-2022 was launched. These reflections are made with one foot in the present and one foot in the future, taking the time afforded by COVID-19 to recognize the efforts of the past 3 years in helping build the groundwork for the Sarawak digital economy. It is by no means perfect - there are growing pains, gaps and fumbles that have added colour to the past 3 years. This publication hopes to serve as a gentle reminder of the task at hand, while giving the Sarawak digital family a deserved pat on the back. It hopes to reassure the Sarawak Innovation Entrepreneurship Ecosystem (IEE) that they are on the right track. It hopes to touch base with the Sarawakian public on the current progress. It hopes to serve as additional encouragement for the talents and hearts that make up the future of Sarawak's digital economy—the local Sarawakian startups and social enterprises.

If anything, Borneo Digital's fresh success with MYHackathon 2020 is a timely reminder of this digital vision. Cynics may dismiss this as a convenient point, especially considering how independent Borneo Digital's success is. But therein lies the point—without the SDES, Borneo Digital's success may not be sustainable within Sarawak's borders as there would be no ecosystem for them to naturally fit in. In turn, they serve as an accessible and realistic benchmark for every aspiring idea,

entrepreneur, startup and social enterprise that comes through the Sarawak IEE's doors. Borneo Digital's story of consistent growth and evolution from a software house to a media content platform to a full-fledged digital media house is inspiring and compelling not because of its impressiveness, but rather how realistic it is.

It can be done. Sarawakians are doing it. Sarawak can do it.

Borneo Digital is its own self-contained digital ecosystem that has the human capital and expertise to generate Sarawakian content, with the expertise and experience to broadcast the content to a ready-made East-Malaysian (and Borneo market, one that is perfect for their fellow Sarawak startups and social enterprises.

A digital Borneo, if you may.

The SDES is the only such agenda and initiative in Borneo. There has been no precedent. As focused and specific the Sarawak Digital Economy Strategy (SDES) 2018-2022 is for the state of Sarawak, it must be noted that the state is arguably the most popular and influential state in Borneo. Changes in the state will ripple throughout the island. It is worth noting now that 2030 is just a decade away. Once we have successfully turned Sarawak digital and made the SCORE, wouldn't blazing a trail for a digital Borneo future be the next natural step?



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**SARAWAK DIGITAL INNOVATION
& ENTREPRENEURSHIP
ECOSYSTEM**