



We Are Here



Hayat Technologies Sdn Bhd Suite 15.01 & 15.05, Level 15, Centrepoint North, Mid Valley City, Lingkaran Syed Putra, 59200 Kuala Lumpur, Malaysia





Table of Content

Who We Are Our Multiple Talents & Unified Passion	03 - 08
How We Work Our Development Philosophy & Areas	09 - 13
What We Offer The Solutions We Have Built	14 - 32
Who We Have Served Our List of Esteemed Clients	33 - 46





Who We Are

Hayat Technologies is a specialised health-tech analytics and digital solutions provider.

The company distinctively tailors data-driven solutions for clients seeking to address unique challenges rather than offering generic technology platforms. By initiating problem identification, Hayat delves deep into data, both nationally and locally, to propose industry-relevant solutions or custom-built strategies.

Formerly known as AIME Healthcare, Hayat has a rich history of tackling global health challenges such as Zika, Chikungunya, Dengue and Covid-19, harnessing the power of AI, Machine Learning and Big Data Analytics.

Hayat embraces a broader vision and sustainable design philosophy, aiming to provide innovative solutions not only in healthcare but also lifelong care. We empower health and well-being through AI and Data Science in our tailored analytics, prioritising genuine problem understanding, comprehensive data analysis, and customised strategies for our clients' unique challenges.





At Hayat Technologies, we are driven by the belief that everyone deserves a brighter, healthier, and more connected future.





Key Personnel

Group Chief Executive Officer & Co-Founder

Datuk Wira Satya Kumar is the co-founder and Group Chief Executive Officer of Hayat Technologies. He is an experienced entrepreneur who has been active in the corporate and non-profit space for over two decades. He helms the angel investment group DVE Sapta as its Group Managing Director which has assets under management of over RM1 billion.

Satya sits on multiple boards of startups and scale-ups with a focus on artificial intelligence, data analytics, mobility technologies, machine learning and cybersecurity.

His passion for entrepreneurship had led him to leave medical school and foray into early digital space, during which time he co-founded a computer telephony integration company that grew its business presence in three countries.

Satya has served as pro tem Secretary General of Sterling Foundation, a non-profit that focuses on early childhood education; Treasurer General of IMEF-ICAPP (International Conference of Asian Political Parties); Director of MySkills Foundation, a non-profit that shelters and rehabilitates at-risk youth; Deputy President of Osai Foundation, a Malaysian charity that houses and nurtures disadvantaged children in the Klang Valley; and is an active alumnus of Said Business School, University of Oxford.





Key Personnel

DR HELMI ZAKARIAH

Chief Executive Officer & Co-Founder

Dr Helmi Zakariah (MD, MPH) is a professionally-trained physician and public health professional. His academic credentials include a Medical Degree from the Russian Federation and a Master's in International Public Health from the University of Liverpool, United Kingdom.

In 2017, he pivoted as a digital health entrepreneur with extensive experience in leveraging Big Data Analytics and Artificial Intelligence in Medical Epidemiology. In 2019, Dr Zakariah became a member of WHO/ITU Working Group for AI in Outbreak and later in 2022 a member of the Selangor Public Health Advisory Committee (SELPHAC).

As CEO of AIME Healthcare and AI4Good, Dr Zakariah, ventured into Big Data Analytics and Digital Epidemiology to play a key role in creating and applying data analytics solutions in public health, women's and reproductive health, and sustainable agriculture, impacting communities across three continents.

During the Covid-19 pandemic in Malaysia, Dr Zakariah led the Digital Epidemiology portfolio for the Selangor State Task Force for Covid-19 and introduced the nation's inaugural QR-based e-tracing ecosystem, subsequently replicated nationwide. He also established Selangor's e-Health and e-Welfare platform Selangkah, underscoring his dedication to advancing digital health solutions. Now as the CEO of Hayat Technologies, as a testament to his global impact, Dr Zakariah was appointed as the Commissioner for Chatham House's Commission for Universal Health, collaborating with leaders in health, economics, and politics to advocate for transformative universal health reforms.



Senior Management



DATUK WIRA SATYA KUMAR Group Chief Executive Officer & Co-Founder



DR HELMI ZAKARIAH
Chief Executive Officer
& Co-Founder



SUFIAN KHAIRI Chief Technology Officer



MUTTAQQIN ESHAMUDDIN Chief Operating Officer



ARVIND NAIR Chief Financial Officer



RAINIER MALLOL Chief Strategic & Innovation Officer



KHALID KAMAL
Chief Marketing &
Corporate
Communications Officer



MOHD RAKESH Chief Commercial Officer



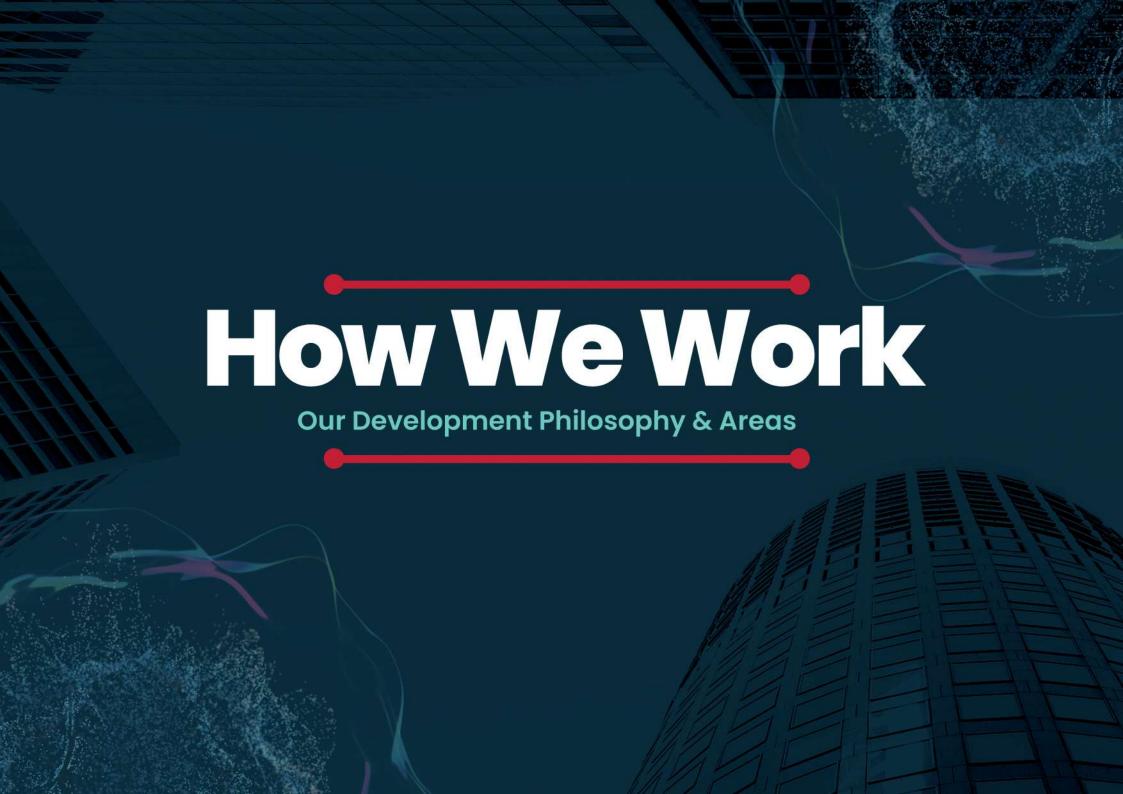
NAJIHA IZZATI Chief Human Resources Officer



Hayat embraces a progressive work culture, promoting gender equality, a peer-based review system, and a horizontal hierarchy.

Our Progressive Incentivisation Scheme rewards merit and dedication, fostering a collaborative and inclusive environment that empowers every team member to thrive and deliver exceptional results.







1. Health Technology

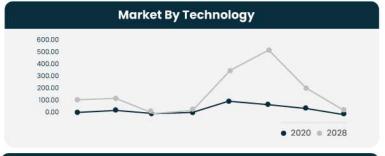
Health tech platforms, including telehealth and mobile health, enable real-time medical treatment, benefiting various sectors like public, retail, banking, and production.

At Hayat, we take AI to the next level with our cutting-edge technology, leading the market with innovative solutions that benefit society at large. We customise AI to meet your organisational needs, delivering creative advancements that push the boundaries of what's possible.

Impact On Your Organisation

- Reforms operations through cutting-edge health technology
- Enhances efficiency, precision, and patient care
- Streamlines processes and optimises resource allocation
- Empower informed decision-making through advanced data analytics
- Provide seamless integration of digital health solutions
- Strengthens commitment to providing the highest standard of care
- Drives the organisation closer to the vision of a healthier, more connected world







Source: Digital Transformation in Healthcare Market Outlook (2023 to 2033)



2. Welfare Technology

Welfare tech is a rapidly growing industry that harnesses technology to address various healthcare challenges and enhance overall well-being. It encompasses a wide range of digital solutions, including telemedicine, remote patient monitoring, health apps and Al-driven diagnostics.

Hayat is positioned for success in the welfare tech industry with our expertise in technologies like data analytics, AI, and machine learning. By integrating innovative solutions into the welfare tech ecosystem, we aim to improve patient outcomes, optimise healthcare processes, and empower individuals to manage their health.

Impact On Your Organisation

- Promotes work-life balance and boosts job satisfaction
- Attracts talent and reduces employee turnover
- Streamlines processes and saves time and resources
- Optimises resource allocation and reduces absenteeism
- Provides valuable insights for informed choices

- Fosters a caring and engaged work environment
- Helps adhere to regulations and reduces liabilities
- Empowers employees to manage their schedules effectively
- Supports employee well-being, leading to improved performance





3. Data Analytics Service

Data Analytics can empower organisations with actionable insights, enabling informed decision-making that drives efficiency, growth, and a competitive edge in the dynamic market landscape.

At Hayat, the focus on Data Analytics is on tailoring and adjusting the data management and analytics system to meet the specific needs of individual users or organisations. They offer flexibility to modify various aspects of the solution, including data collection, storage, processing, analysis, and visualisation, to align with unique requirements and workflows.

By offering customisable features, Hayat's data solutions empower users to create a data environment that best fits their objectives, ensuring efficient data handling, accurate analysis, and effective decision making based on their specific data challenges and opportunities.

Impact On Your Organisation

- Uncover valuable patterns and trends within vast datasets, empowering data driven decision-making
- Streamline processes and resource allocation through data-driven optimisations
- Leverage advanced algorithms to forecast trends and anticipate future opportunities or challenges
- Tailored data analytics strategies to address specific organisational needs and goals
- Gain an edge in the market with data-backed strategies and a deeper understanding of customer behaviour
- Stay agile with live data monitoring, enabling swift responses to changing trends
- Drive growth and success with evidence-based strategies and continuous performance evaluation





Type of Data Analytics



Descriptive Analytics



Diagnostic Analytics



Actionable Solutions

Analyse outbreak trends, density & how well it's responded to. Handy for operational management. A single platform to make sense of multimodal data collection sources (epidemiological and entomological).

Automate Root-Cause-Analysis that explain why things are happening - or not. For example, why is insecticide A not working in Area X, as opposed to Area B? Helps troubleshoot operations.



Vulnerability Analysis



Predictive Analytics

Overlay Predictive Analytics with demographics at-risk (age group, gender, income group, job types). We call it "actual vulnerability analysis". Superimpose with user sentiments for "perceived vulnerability analysis. Client call it "target markets".

Tells "what is likely to happen?" based on historical data and assuming multivariate dynamic variables. Helps decision-making aids and automation. Users hate to be told about risk, without a clear CTA (Call-to-Action) on the solutions. Pair VA with readily-available solution that is actionable by users. Forget public space fogging. Tie to indoor insecticide product. OT-controlled / time-sensor insecticide dispenser for indoor. Bite Alert for during timing. Visualise how individual risk changes over time.





Finding the right AI solution for you

Hayat has been providing the following AI solutions to real-world problems. For example:



Problem Statement

How to gain the upper hand in the continuous battle with dengue in hotspot areas?



Solution

Use AI to monitor dengue cases and predict where the following outbreaks will occur up to 30 days in advance so that the appropriate resources can be utilised to prevent it.



Use Case

Saved up to RM2.3M (US\$492,000) per year by mitigating the need for the "Mega Eradication" program in Penang, Malaysia. An integrated, Al-run system freed up to 40,000 man-hours per year by eradicating the need for multiple, redundant data entry works and outbreak identification.



Al.rbo

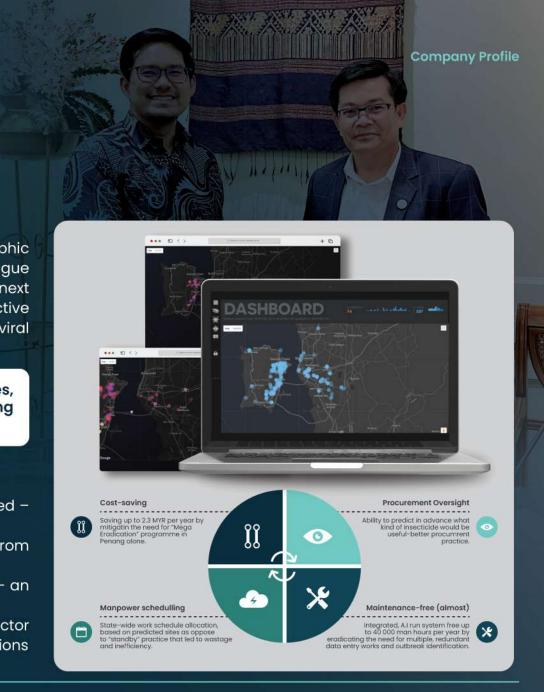
Al Console for Arboviral Diseases

Our flagship product, an Al-powered web-based Geographic Information System (GIS) not only excels in ongoing dengue outbreak surveillance and analytics but also predicts the next dengue outbreak up to four weeks in advance. Its predictive algorithm has been enhanced to cover other arboviral diseases like Zika and Chikungunya.

Al.rbo has been deployed in Brazil, The Philippines, Bangladesh and Malaysia, and is currently making inroads in Laos.

Client Benefits

- No sophisticated hardware nor IT infrastructure is needed no redundant data entry!
- Web-based dashboard: Log into the software from anywhere – no worrying about backups
- One solution across all devices: Shared group licenses an unlimited number of users.
- Data-driven and informed decision-making for vector control personnel. Cost reduction and focused interventions





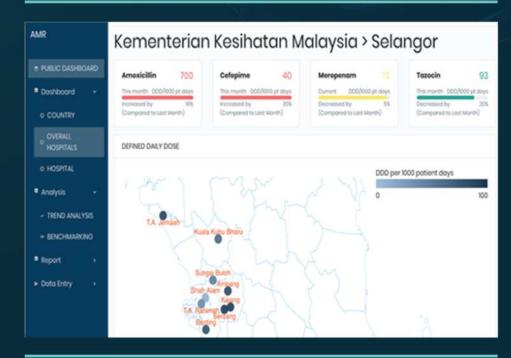
Antibion

Al System for Antibiotic Resistant Stewardship

Antibiotic Resistance is a global health hazard. While we need antibiotics occasionally, it is often used non-judicially in both healthcare settings and food production.

ANTIBION takes a different approach in Antibiotic Resistance stewardship by monitoring antibiotic consumption in an institution and giving out predictive analytics of emerging resistance so that it can be stopped in its tracks well in advance.

Hayat developed a National Health Performance Dashboard for the Malaysian Ministry of Health to highlight the patterns, trends, and correlations from national health data in a visual context. As a part of the emerging area of Insurtech, a similar platform is currently under development to be utilised by Malaysia's National Social Security Organisation (SOCSO), and similarly by many of our partners in the insurance industry.





Feminicido

Predicting the unthinkable

Gender-based violence is a public health issue affecting women and men, having a significant impact on those directly affected and their families. To tackle it, we have historically focused on victim support and crime reduction rather than prevention.

In **the Caribbean** and **Latin America**, we deployed its expertise to create an Al-backed predictive algorithm to determine where and when the subsequent incidence of domestic abuse will most likely occur.

With an accuracy rate of up to 90%, Feminicido was our second venture in South America, where social protection service was commonly overstretched.











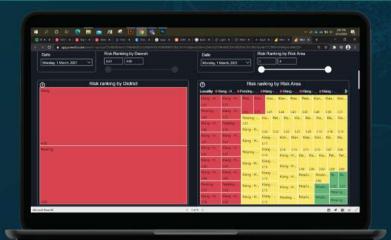
ACURA

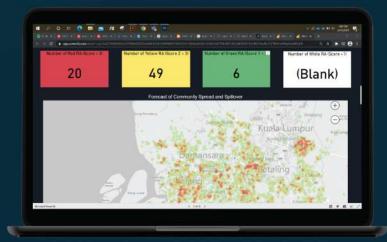
Analytics for Coronavirus Urgency Assessment

Outbreaks of infectious diseases carry significant risks to public health, leading to hospitalisation and death. They also strain healthcare resources and have negative social impacts.

We designed ACURA to enhance disease surveillance and data dissemination. It uses machine learning algorithms and social determinants to improve surveillance efforts and empower end-users to take appropriate actions. The platform includes a bot called REDINT, which searches through more than 40 different databases for epidemiology, weather, and geographical for relevant data. By processing this data using machine learning, ACURA can predict and geolocate disease outbreaks, prioritise affected areas, and efficiently mobilise public health initiatives and resources.

This Al-powered dynamic tool addresses the critical focal point of the spread of infectious diseases utilising disease surveillance, automated contact tracing and home quarantine monitoring system. It automatically prioritises suspected individuals to preserve healthcare resources and impact evaluation on public health assessment, while meeting the needs of stakeholders, healthcare workers, and at-risk communities.





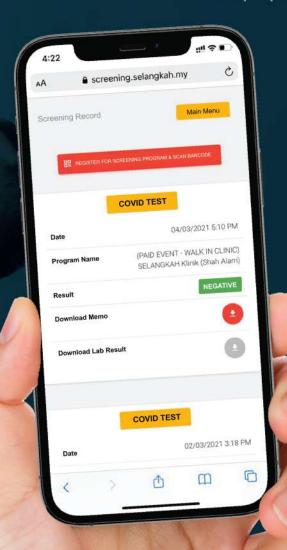


Infectious Diseases Outbreak Mass Screening

Implementation of objective-driven and sustainable testing strategies for Covid-19 supports the overall public health response to the pandemic and helps mitigate its impact on vulnerable populations and healthcare systems while ensuring that societies and economies can continue to function.

We used AI and a mass of health data to predict future Covid-19 hotspots before any clusters emerge. A targeted community screening program will then be conducted in high-risk neighbourhoods based on the predicted hotspot locations to assist in Covid-19 outbreak tracking efforts.

This rapid review provides evidence on testing strategy for Covid-19 in a few epidemiological situations, including general population-wide testing, as well as targeted testing of individuals for the possibility of strategy enhancement.

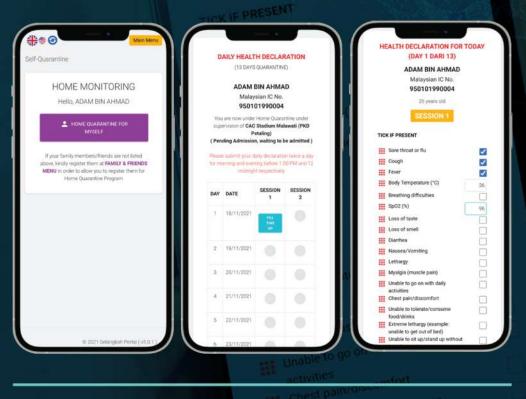




Home Quarantine Monitoring Tool

In times of quarantine and isolation, patients often face challenges in accessing timely medical assistance and guidance. Recognising this gap, we developed a real-time patient telemonitoring tool to address the need for immediate support and communication between patients and medical practitioners.

With this automated cloud-based system, a patient's welfare can be taken care of immediately. The patient can converse with a medical practitioner using the chat function whenever the need arises.





Online Mental Health Support

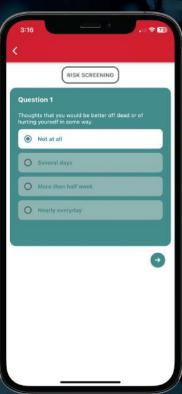
This revolutionary module promotes mental well-being through a comprehensive and user-friendly platform, aimed to create self-awareness, encourage early intervention, and provide essential psychosocial assistance to individuals in need.

Users will gain access to a range of vital functions and resources to support their mental health journey, including self-screening modules and risk assessments, informative psychoeducation videos, psychosocial support hotline and subsidised psychiatric screening services.

Benefits

- 1. Learn about mental health conditions, symptoms, and coping strategies from educational resources.
- 2. Track your mood, emotions, and behaviours for better mental health management.
- 3. Get connected to support groups and mental health professionals.
- 4. Track, identify and manage specific symptoms related to mental health.
- 5. Actively participate in the road to recovery with the reminder, medication tracker and appointment scheduler features.



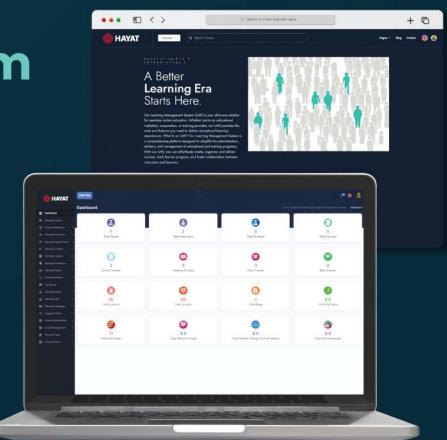




e-Learning Management System

e-Learning Management System (e-LMS) is an online learning platform with specific features for education or training, focusing on course management, assessments, collaboration, and tracking learner progress. Offering scalability, accessibility, and integration options, it is ideal for delivering and managing online courses or training efficiently.

e-LMS was developed by Hayat for the US Centres for Disease Control and Prevention (CDC) in collaboration with SafetyNet. Using e-LMS, Hayat also partnered with the Selangor State Government to develop a curriculum for the Selangor Health Community Volunteers (SUKA).





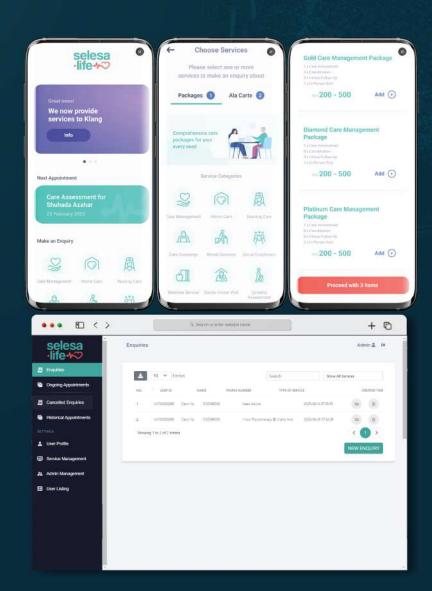
Selesa.life

In today's fast-paced world, the demand for quality homecare services has surged, driven by the increasing number of individuals requiring assistance with daily living, especially the ill, disabled, and elderly population.

However, the traditional process of finding and engaging with reliable ambulatory/domiciliary care providers can be arduous and time-consuming for parties.

Recognising these challenges, we introduce Selesa.life, a pioneering digital platform that aims to revolutionise the industry by connecting users directly with care providers.

Selesa.life empowers seekers to access a diverse range of paramedical aid and daily living assistance services while providing providers with a comprehensive management portal, streamlining the entire process and ensuring a seamless experience for all stakeholders involved.





Digital Health Screening Tool

Early detection and management of non-communicable diseases (NCD) including diabetes, hypertension, and cardiovascular disease can help prevent complications and improve health outcomes.

With our Digital Health Screening Tool, individuals can access a comprehensive health screening and receive a report that identifies risk factors for NCDs as well as recommendations on how to manage these risks.

This system was deployed through Selangor's state-subsidised health screening program Selangor Saring in 2022 that targeted not only NCDs but also cancer as well as eye, ear and dental illnesses.

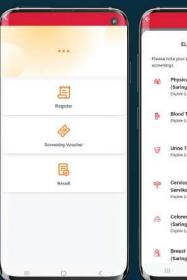
Use Case: Selangor Saring (as of July 2023)

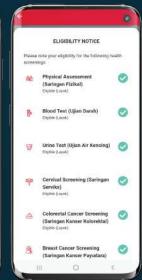
Anthropometric Testing Result:

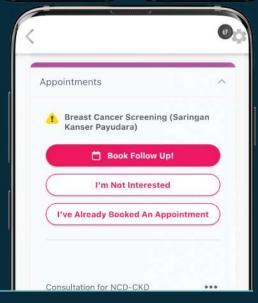
- 64.95% of the participants were diagnosed with hypertension and obesity
- 34.54% suffer from diabetes, high cholesterol, or both
- 98.14% suffer from chronic kidney diseases

Number of Cancer Screenings Conducted:

- 114 screenings for Breast Cancer
- 1,591 HPV-PCR tests for Cervical Cancer
- 506 iFOBT tests for Colorectal Cancer
- 346 PSA tests for Prostate Cancer









Lifetime Health Record

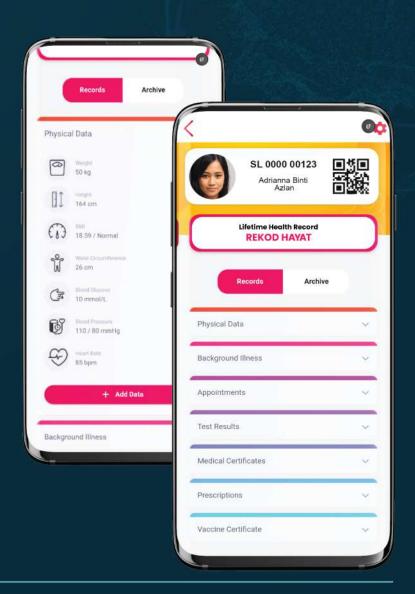
Inefficient paper-based medical records systems lead to fragmented patient information, delayed access to critical data, and increased risk of medical errors, underscoring the urgent need for a comprehensive and secure electronic medical record platform.

This cloud-based module allows users to securely store and access their electronic medical records onto their mobile device and track their health progress from anywhere at any time.

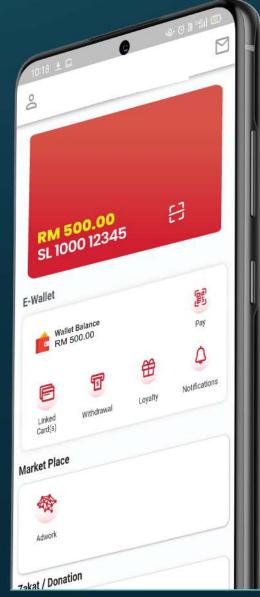
The records can also be accessed by healthcare providers, thus making it easier for different doctors to get the information they require to provide proper care and diagnosis.

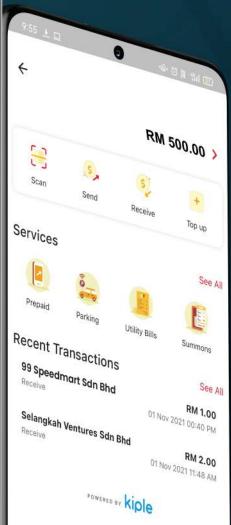
Benefits

- Keep a record of your medical history medication, diagnoses, treatments, medical certificates, vaccinations
- Track your health performance through automated charts
- Get reminders for your upcoming medical appointments
- Archive and lock confidential documents with a password
- Get direct access to health specialists









Solutions: Fintech

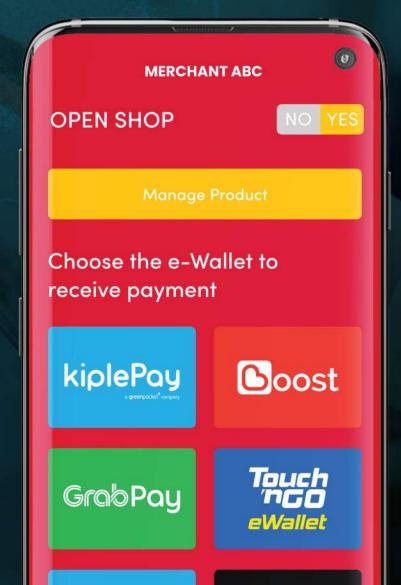
e-Wallet

In today's fast-paced digital era, e-wallets have become indispensable tools for effortlessly settling bills and making purchases.

At the forefront of this financial convenience is our cutting-edge e-wallet designed to simplify and enhance your payment experience.

With a user-friendly interface and robust authentication measures, this module offers a myriad of features, allowing users to make swift payments at selected merchants, conveniently purchase mobile phone reloads, efficiently settle utility bills and conduct peer-to-peer transactions—all with just a few taps on their smartphones.





Solutions: Fintech

Digital Payment Operating System

Business digitisation is expensive for microbusinesses as they have limited working capital. In this challenging period, cost reduction is vital to ensure sustainability.

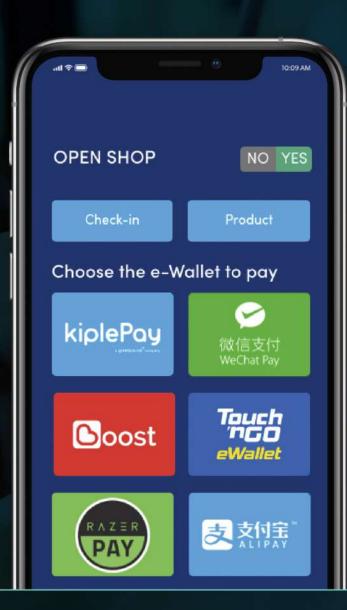
In order to help micro-businesses generate improved revenue, we introduced a unified payment solution that allows business to transition into a cashless business environment that ensures safe, secure, and smooth digital transactions.

With this technology, our merchants can accept payments from customers through any e-wallet provider.

Advantages

- Can accept payment from many e-wallet providers
 - Quick and simple transactions
 - Hassle-free
 - Automatic receipt generation
 - Automatic transaction log •
 - Data can be converted into Excel/CSV format





Solutions: Fintech

Omnichannel Payment Gateway

The Covid-19 pandemic has accelerated the adoption of electronic money (e-money) payments in Malaysia. E-wallet providers are seeing higher take-up during the movement restrictions period as consumers embrace contactless payment as a safer mode amid the spread of Covid-19.

We developed a unified online platform that uses a web portal, allowing users to easily make personal or business transactions. The hassle-free one-stop portal offers the same convenience as its e-wallet app, so no matter which payment method you prefer, you can rest assured of smooth and secure transactions.

Omnichannel Payment Gateway users can make payments to customers using any eWallet provider including Kiplepay, Boost, Touch n' Go, GrabPay, Alipay, WeChat Pay, and RazerPay.



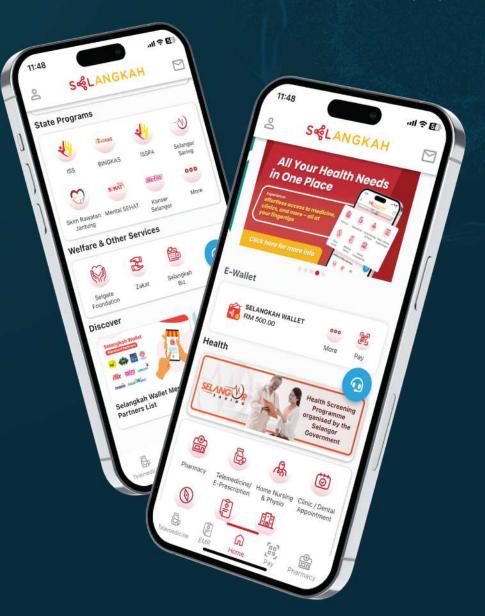
Solutions: State App & ID

Selangkah

Since its inception in May 2020, SELANGKAH has been at the forefront of innovation, spearheading a diverse range of digital solutions for Covid-19 response, health screening tests, childhood nutrition and mental health services, among others.

This groundbreaking app has impacted 3.78 million users with 11,812,621 engagements with users, establishing Selangkah's role as the primary digital platform for Selangor State Government's e-health and e-welfare services.

As co-founders of Selangkah, Hayat Technologies strives to bring forth the gold standard for a comprehensive state super-app. Selangkah is forging ways to introduce more offerings via multiple verticals, ultimately aiming to enhance quality of life and becoming the number one citizen app in the country.





Selangkah App



Selangkah

Unique Selling Points

- Selangkah has reached a critical user base approximately 28% of total Selangor residents.
- Well-known and trusted, Selangkah has been utilised and tested across three different sectors health tech, fintech and e-welfare — without fail.
- It is deemed as the Mobile App that has a strong history of user demographic that focuses on the health vertical.

Selangkah ID

Customised to be inter-operable across multiple ecosystems, SELANGKAH has successfully developed a state-of-the-art digital ID design and framework.

A verifiable credential, the SELANGKAH ID allows access for digital services to be automated, making it possible for e-service platforms to mediate relationships between users and service providers.







requests, says the Selaveor sovermont.

CodeBlue Health is a human right

Q

₩ (9 in

Selangor Saring: Health Screening, Diagnosis, Lifetime Health Records On SELangkah

The Selangor government's health screening programme, Selangor Saring, not only provides iFOBT, cervical swabs, and mammograms, among others, but also covers the cost of further diagnostic tests; the SELangkah app can store one's lifetime health record.



SElangkah introduces cards to ease contact tracing for OKU



malaymail

'SELangkah': Selangor unveils QR code framework for Covid-19 contact tracing



Selangkah Biz brings cashless payment to SMEs

By Digital News Asia March 23, 2021

Allows registered businesses to accept cashless payments using smartphones
 Developed in collaboration with Kiple; supports TnG eWallet, Boost, Rezer and kiplePay



BERNAMA.com

SELANGKAH BIZ APP MERCHANTS STAND TO EARN RM10,000 DAILY INCENTIVES THIS RAMADAN





Selangkah Ventures wins Al award for Healthcare in Malaysian Technology Excellence Awards

It was awarded for the growth of its Selangkah App, which started out as a contact tracing platform.

S&LANGKAH





State executive councilior for public health Or Sitt Marish Mahmud oversees the operations of the Setanger Vaccination Programme (Setvax) Booster at the Selcare Clinic in Section 13, Shah Alam, on December 10, 2021. — Picture by REI ARIFINISELANGOIRKINI

Over 33,000 registrations for Covid-19 booster recorded via SELangkah

malaysiakini news and views that matter

Selangkah rolls out enhanced mobile app with commercial features

m

Published: Feb 9, 2021 7:29 PM + Updated: Feb 26, 2021 5:09 PM

The Selangor Government has rolled out an enhanced version of its contact tracing mobile app, Selangkah. From today, the app will introduce new features – health and commercial – to help the public navigate their way through the Covid-19 pandemic.

The app was first launched in May 2020 as an immediate response to facilitate the monitoring of human traffic during the movement controls resulting from the Covid-19 pandemic.

The next-generation version of the app was launched today by the Selangor Menteri Besar Dato' Seri Amirudin Shari, at a virtual media event.



RinggitPlus

Selangkah App Introduces New E-Wallet

Feature, Selangkah Wallet

Alex Cheong Pui Yin 6th December 2021 - 2 min read





Our Clients

Domain	Services & Tools	Client	Project Information
Healthtech	Al.rbo (Descriptive Analytics + Predictive Analytics)	นายเลง เขาระ คน เลงเลศายร ลง มายเลยเลงกร Lao PDR National Center for Laboratory and Epidemiology (NCLE) (2023)	What is it? Hayat kickstarted the pilot deployment of its AI platform for dengue outbreak surveillance and future outbreak management in Vientiane, Lao PDR. How is it used? We built a customised prototype for dengue surveillance mapping platform and analytic dashboard to predict future dengue outbreaks in the city. What are the outcomes? The AI.rbo platform helps the client in identifying dengue clusters and predicting future dengue outbreaks, enabling them to strategically concentrate their intervention in those specific areas.
	Al.rbo (Descriptive Analytics + Predictive Analytics)	PRUDENTIAL Prudential Malaysia (2023)	What is it? Hayat provides API endpoints on Dengue Risk Areas data and Trends data on dengue outbreaks. How is it used? The Al.rbo system was implemented through the client's Pulse App in a form of a map that displays the current dengue outbreak information What are the outcomes? Client has successfully rolled out the features in their app, which are able to provide their users with useful information and raise awareness.



Our Clients

Domain	Services & Tools	Client	Project Information
Healthtech	Al.rbo (Descriptive Analytics + Predictive Analytics)	Takeda Takeda, Malaysia (2023)	What is it? Hayat provides API endpoints for data on Dengue Outbreak Areas, Trends, and Prediction. How is it used? The client set up a dengue surveillance website, powered by DoctorOnCall, to raise awareness on the risks a person faces in dengue outbreak areas. What are the outcomes? The integration of Al.rbo with Takeda and DoctorOnCall was completed, allowing their descriptive and predictive data to provide insights that can drive their business goals.
	Al.rbo (Descriptive Analytics + Predictive Analytics)	Federal Territory Of Kuala Lumpur (2019)	What is it? Al.rbo was created as a solution to help the government in managing dengue outbreaks in the city. How is it used? Al.rbo uses multiple data sources such as weather, socio-economic and demographic together with dengue cases listing in order to forecast potential cases that would start a dengue outbreak as an index case. What are the outcomes? The government was able to leverage the forecast output to better strategise targeted prevention and intervention in potential outbreak locations, which resulted in better cost and resources allocation.



Domain	Services & Tools	Client	Project Information
	Al.rbo (Descriptive Analytics + Predictive Analytics)	Penang State Government, Malaysia (2018)	What is it? Al.rbo was created as a solution to help the government in managing dengue outbreaks in the city. How is it used? Al.rbo uses multiple data sources such as weather, socio-economic and demographic together with dengue cases
Healthtech	Al.rbo (Descriptive Analytics + Predictive Analytics)	Government Of Rio De Janeiro, Brazil (2016)	listing in order to forecast potential cases that would start a dengue outbreak as an index case. What are the outcomes? The government was able to leverage the forecast output to better strategise targeted prevention and intervention in potential outbreak locations, which resulted in better cost and resources allocation.



Domain	Services & Tools	Client	Project Information
Healthtech	Learning Management System	safetynet SafetyNet Manila, Philippines (2023)	What is it? We developed a learning management system for SAFETYNET called SLiMS. A learning management system (LMS) typically includes features for creating, delivering, and managing educational content, and tools for tracking students' progress and performance. How is it used? SLiMS will be fully utilised by mentors and mentees including SafetyNet officers and epidemiologists, to delve deeper into studying disease outbreaks in specific areas. SLiMS provides a versatile platform that supports self-paced studies, assignments, and field project submissions, allowing for a comprehensive learning experience. It enables mentors and mentees to explore the intricacies of outbreaks, analyse data, and collaborate effectively to gain valuable insights and contribute to the field of epidemiology. What are the outcomes? An LMS can help enhance the learning experience by providing learners with access to educational content anytime and anywhere using any device equipped with an internet connection.



Domain	Services & Tools	Client	Project Information
Healthtech	Rekod Hayat	Selangor State Government, Malaysia (2023)	What is it and how is it used? The cloud-based lifetime health record allows users to store and access their electronic medical records onto their mobile device and track their health progress from anywhere at any time.
	SELESA.life	managedcare care to ease ManagedCare Malaysia (2023)	What is it and how is it used? SELESA.life is a Digital Healthcare Marketplace for Integrated Care Ecosystem that links various stakeholders within the healthcare ecosystem. This innovative marketplace brings together healthcare providers, patients, caregivers, pharmaceutical companies, medical device manufacturers, insurers, and other healthcare stakeholders on a single digital platform.
	NCD Screening (Descriptive Analytics + Vulnerability Analysis)	Selangor State Government, Malaysia (2022)	What is it and how is it used? Individuals can use their mobile device to access a comprehensive health screening service with our digital health screening tools. Early detection and management to non-communicable diseases can help prevent complications and improve health outcomes.
	Digital Vaccination Platform	SELGATE Selgate Corporation Sdn Bhd, Selangor, Malaysia (2021 – 2023)	What is it and how is it used? The Digital Vaccine Platform is a technological solution designed to streamline and enhance the vaccination process. This innovative platform serves as a comprehensive tool to efficiently manage the administration of vaccines for diseases including Covid-19, Influenza, and Pneumococcal. Notably, Selgate has successfully implemented this platform in Malaysian states including Selangor, Perak, and Johor.



Domain	Services & Tools	Client	Project Information
Healthtech	Home Quarantine Monitoring Tools	Selangor State Government, Malaysia (2021)	What is it and how is it used? We created a cloud-based companion app to offer patients assistance or guidance immediately when needed. With this automated system, a patient's welfare is being taken care of immediately.
	ImuniSel	Selangor State Government, Malaysia (2021)	What is it and how is it used? This platform was created to assist with vaccination registration, especially for eldery citizens of Selangor and those who do not have access to smartphones. The aim was to bridge the gaps in the community and it helped us to achieve herd immunity in no time.
	Mental Sehat (Descriptive Analytics + Vulnerability Analysis)	International Islamic University Malaysia, Selangor, Malaysia (2021)	What is it and how is it used? Mental SEHAT is designed to help individuals build resilience, increase awareness, and improve their access to mental health services. It emphasises the importance of early intervention and provides support to individuals who may be experiencing mental health challenges.



Domain	Services & Tools	Client	Project Information
Healthtech	Selangkah	Selangor State Government, Malaysia (2020)	What is it and how is it used? We had deployed the nation's first Contract Tracing ecosystem called SELANGKAH. Its aim was to tackle the increasing wave of cases in Selangor, Malaysia's most populous state. SELANGKAH was upgraded into a full-suite Pandemic Response Platform. It currently offers a wide range of digital tools from Surveillance, Selangkah Screening, NCD Screening, Selangkah Wallet, Selangkah Pay, Selangkah Biz, Home Quarantine Monitoring Tools, Rekod Hayat, Selangor Mental Sehat, ImuniSel and Acura.
	Selangkah Screening	Selangor State Government, Malaysia (2020)	What is it and how is it used? Selangkah uses AI and a mass of health data to predict future Covid-19 hotspots in Selangor before any cluster emerge. The Selangor government conduct targeted community screening in high-risk neighborhoods based on the predicted hotspot locations to assist in Covid-19 tracking efforts.
	Acura (Descriptive Analytics + Predictive Analytics + Vulnerability Analysis)	Selangor State Government, Malaysia (2019)	What is it and how is it used? Acura is a surveillance system to quickly identify potential outbreak as early as possible to minimise the risk posed by widespread infection disease. It aims to close the gap by improving the surveillance and dissemination of data and facilitating the end user's next appropriate actions using its machine learning algorithm and social determinants.



Domain	Services & Tools	Client	Project Information
Healthtech	Antibion (Descriptive Analytics + Vulnerability Analysis + Predictive Analytics)	Kementerian Kesihatan Malaysia Malaysian Ministry Of Health (2019)	What is it? We deployed AI system for Antibiotic resistant stewardship How is it used? We monitored antibiotic consumption in an institution and gave out predictive analytics of emerging resistance so it can be stopped well in advance. A health performance dashboard will highlight the patterns, trends, and correlations from national health data in a visual context. What are the outcomes? By monitoring the use of antibiotics, institutions can identify and address patterns of overuse, which can help to prevent the development of antibiotic resistance.
	Feminicido (Descriptive Analytics + Vulnerability Analysis + Predictive Analytics)	Dominican Republic (2019)	What is it? We deployed Al-backed predictive algorithm to determine where and when the subsequent incidence of domestic abuse will occur. How is it used? With an accuracy rate of up to 90%, Feminicido was our second venture into South America, where social protection service is commonly overstretched. We are committed to social justice and a more gender-equal world. On the insert tab, the galleries include items that are designed to coordinate with the overall look of your documents. What are the outcomes? To tackle it, we have historically focused on victim support and crime reduction rather than prevention.



Domain	Services & Tools	Client	Project Information
Welfare Tech	MamaKerja (Descriptive Analytics)	Selangor State Government, Malaysia (2023)	What is it and how is it used? This is a welfare program where a one-time payment of RM1,000 will be given to 5,000 eligible working mothers in Selangor to help alleviate their costs of childcare.
	Lead Generation Module	مصرفالراجداي dirojhi bank Al-Rajhi Bank, Malaysia (2023)	What is it and how is it used? We designed and developed a Lead Generation Module for Al-Rajhi Bank
	Bantuan Kehidupan Sejahtera Selangor (Descriptive Analytics)	Selangor State Government, Malaysia (2022)	What is it and how is it used? This is a Selangor State Welfare Program aimed to help eligible citizens with various necessities, including purchasing household items, paying fees for education and supporting their livelihoods.
	Selangkah Wallet	S&LANGKAH Selangkah Ventures Sdn Bhd, Malaysia (2021)	What is it and how is it used? We created a state-endorsed e-wallet that helps to distribute welfare to Malaysians remotely. This move toward a cash-lite society has helped sustain quarantines and will, as the economy restarted, help it reduce disease transmission during that rebound.
	Selangkah Pay		What is it and how is it used? Selangkah Pay is a unified online platform that uses a web portal, allowing Selangor residents to easily make personal or business payments for state and local council services. Customer can make payments using any e-Wallet provider.
	Selangkah Biz		What is it and how is it used? Selangkah Biz is introduced as a Unified Payment Solutions that allows business to transition into a cashless businesses environment that ensure safe, secure and smooth digital transactions.
	Anak Selangor Anak Sihat (Descriptive Analytics)	Selangor State Government, Malaysia (2021)	What is it and how is it used? This Child Growth Monitoring Program is a regular assessments of children's growth and development, offering early detection of health issues, providing nutritional and developmental support, and educating parents/caregivers for better child well-being.



Domain	Services & Tools	Client	Project Information
Data Analytic Service	Big Data DNS Analytics Software (Descriptive Analytics + Predictive Analytics)	MyNic, Seri Kembangan, Selangor (2021)	What is it and how is it used? Our team of data scientists provided consultation and skillsets on Data Science, to create a dashboard displaying DNS anomaly monitoring, powered by SPLUNK in MyNic's ecosystem. The dashboard was imbued with time-series forecasts on possible network anomalies. This exercise allows MyNic to plan their business strategies based on the network traffic visualised in a Dashboard, and plan with the anticipation of possible attacks based on predicted information.
Aquaculture	JALA	SMECORP SMECorp, Malaysia (2019)	What is it and how is it used? We implemented the Intelligent Aquaculture (JALA) Project in Mersing, Johor through SMECorp's ConnectMe scheme.



Testimonials

Al.rbo

"This game-changing surveillance system incorporates big data analytics and epidemiological research. We hope that (this technology) is capable of reducing the number of dengue cases and saving lives."

Lim Guan Eng, Former Penang Chief Minister

(Source: The Star, 21 Dec 2017)

"The pioneering project involves a collaborative endeavour between the Hayat team and Lao healthcare professionals for the innovative dengue prediction system, Al.rbo, in combating the pervasive threat of dengue fever in Vientiane. The project will examine the methodologies employed by healthcare experts in managing and preventing dengue outbreaks."

(Source: Vientiane Times Newspaper, 25 July 2023)



Digital Health Screening Tools

Use Case: Selangor's State Program, Selangor Saring

"Selangor Saring, the health screening program, has received an incredibly positive response and has exceeded its target of 45,000 individuals. A total of 4,809 individuals have been successfully advised to seek further treatment."

YAB Dato' Seri Haji Amirudin Shari, Selangor Chief Minister

(Source: Sumber Kini, 22 September 2022)

"45,000 people have undergone free health screening during the four-month Selangor Saring programme, the number exceeded the target of 31,000 people. The programme's ecosystem was complete as hospitals and university hospitals were part of the screening and diagnosis process."

Dr Siti Mariah Mahmud, Chairman of the Selangor Public Health, Unity, Women and Family Empowerment Committee

(Source: The Star, 17 Sept 2022)

"The Selangor Screening Program that was introduced in May last year helped 19,888 Selangor citizens identify their health status to avoid the risk of non-communicable diseases. The public health EXCO (Jamaliah Jamaluddin) said the free initiative is in line with the agenda of ensuring the health of the people is preserved in addition to raising awareness of the importance of doing inspections from time to time."

(Source: Selangorkini, 15 November 2023)

"As of July 24, a total of 8,975 individuals have been screened in 30 state constituencies. Out of the 1,528 individuals screened for cancer as of July 17, 25 samples came back positive. Colorectal cancer recorded the highest number of positive samples at 5.9%. Those tested positive for cancer markers will be referred to panel hospitals for further free follow-up checks with medical experts until the disease's final confirmation stage."

YAB Dato' Seri Haji Amirudin Shari, Selangor Chief Minister

(Sources: The Star, 26 July 2022)



Testimonials

Online Mental Health Support

Use Case: Selangor's State Program, Mental SEHAT

"The Mental Sehat program assists the people of Selangor in gauging their mental health through self-administered preliminary screenings such as the 'stress scale' and 'risk assessment,' serving as an early preventive measure. Mental health is crucial in personal development and contributes to productivity in our lives."

YAB Dato' Seri Haji Amirudin Shari, Selangor Chief Minister

(Source: Sinar Harian, 13 August 2022)

"Since its launch, more than 60,000 Selangor residents underwent early mental health screening. Mental SEHAT's psychosocial support line service in the Selangkah App had benefited 312 callers."

Dr Siti Mariah Mahmud, Chairman of the Selangor Public Health, Unity, Women and Family Empowerment Committee

(Source: Sinar Harian, 30 November 2022)

"4,902 individuals in this state have registered and are using the Selangor Mental Health (SEHAT) program application since September 1st. This figure includes those who have undergone screenings and mental health literacy tests until November 21st. She mentioned that a total of 18,253 views have been recorded for 30 mental health education videos within the application, which was launched on August 30th."

Dr Siti Mariah Mahmud, Chairman of the Selangor Public Health, Unity, Women and Family Empowerment Committee

(Source: Berita Harian Online, 3 December 2021)







Global Clients





At Hayat, we take our commitment to advancing global public health seriously. Through strategic collaborations with esteemed international organisations and active participation in prestigious international conferences, we drive meaningful discussions and initiatives that shape the global policy agendas.

Organisations and Policies



Chatham House Digital Technology for Health



World Health Organisation and International Telecommunication Union Al application in Outbreak Prediction



United Nations

Global Health Initiative for Equitable AI Application in Health





SafetyNet and the US Centers for Disease Control and Prevention

Capacity Building for Identifying Emerging
Disease in One Health





Selangor Public Health Advisory Council and United Nations University

Health Policy and System

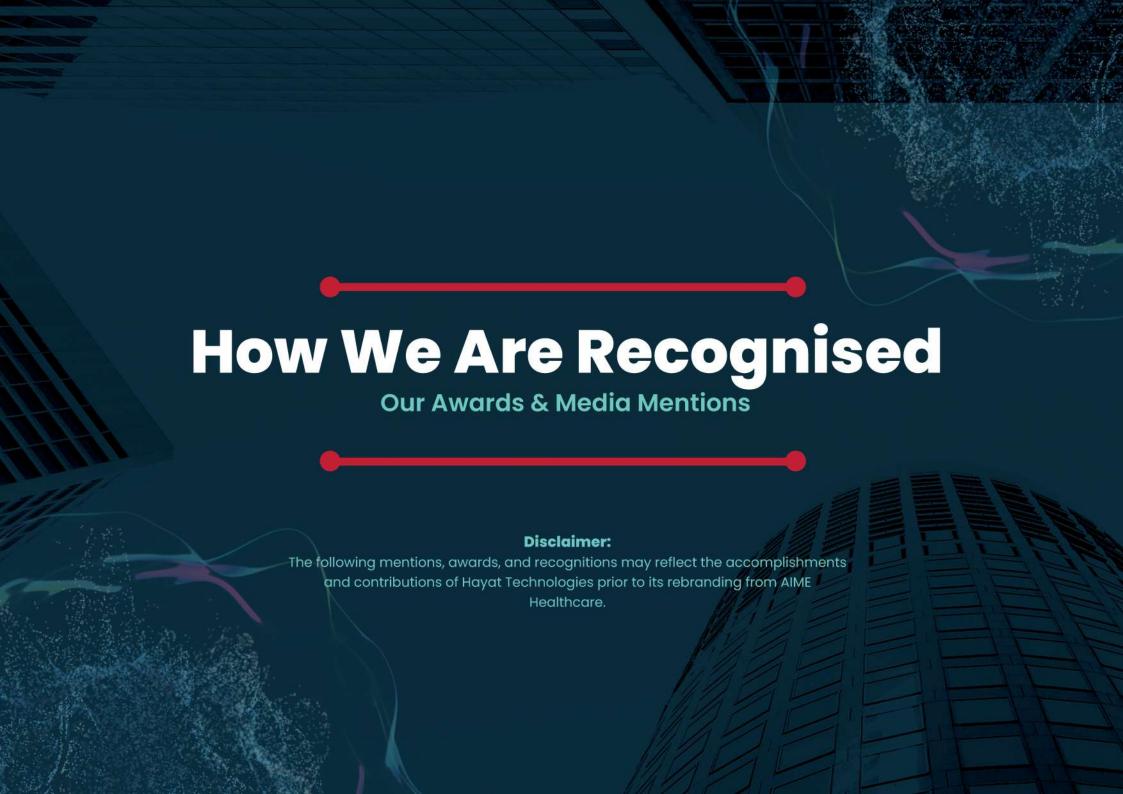
Scientific Publication

"Determining latent features and forecasting of COVID-19 hospitalisations in Malaysia using a national patient assessment data platform: a study of machine learning modelling against expert system"

(www.medrxiv.org, 18 January 2023)

Conference Participation

- Focus Group on Artificial Intelligence for Health 2022 in Helsinki, Finland
- World Summit AI 2022 in Amsterdam, The Netherlands
- Al for Good Global Summit 2023 in Geneva, Switzerland
- Asean Healthcare Transformation Summit 2023 in Kuala Lumpur, Malaysia





Awards & Media Mention

Hayat Technologies is a member of Malaysia External Trade Development Corporation (MATRADE) and United Nation's Global Initiative on Artificial Intelligence for Health (GI-AI4H).

















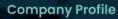






International Publications

Reliefweb	"Could Artificial Intelligence Help Us Predict the Next Epidemic?" https://reliefweb.int/report/world/could-artificial-intelligence-help-us-pred ict-next-epidemic
Forbes	"Infectious Disease: The Beginning Of The End" https://www.forbes.com/sites/brianrashid/2015/10/12/infectious-disease-the-beginning-of-the\(\text{Bend} \) #6dd265d718bc
Startup Daily	"Artificial Intelligence and Medical Epidemiology" http://www.startupdaily.net/tag/artificial-intelligence-and-medical-epide miology/
CNN	"Al and Big Data Joins Effort to Predict Deadly Disease Outbreaks" https://edition.cnn.com/2018/03/06/health/rainier-mallol-tomorrows-hero/inde x.html
ВВС	"Treating Cancer, Stopping Violence How Al Protects Us" http://www.bbc.com/future/story/20170914-spotting-cancer-stopping-shootings-how-ai-protects-us
Singularity Hub	"Five Startups to Watch From Singularity University's 2015 Global Solutions Program" http://www.startupdaily.net/tag/artificial-intelligence-and-medical-epide miology/
UNCTAD	"Q&A with Dhesi Baha Raja, Epidemiologist and Chief Scientist, Artificial Intelligence in Medical Epidemiology http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1436
UNGA	"Predicting Diseases, Saving Lives" http://www.un.org/en/ga/second/71/se1310dhesi.pdf





Local Publications (Malaysia)

Free Malaysia Today

"Penang hires company to predict dengue outbreaks 3 months earlier"

http://www.freemalaysiatoday.com/category/nation/2017/12/20/ penang-hires-c ompany-to-predict-dengue\(\text{Southreaks-} \) 3-months-earlier/

The Star

"High-tech system to combat dengue"

https://www.thestar.com.my/metro/metro-news/2018/02/03/ hightech-system-t o-combat-dengue/

The Star

"Penang takes lead in using AI predictions to beat dengue"

https://www.thestar.com.my/news/nation/2017/12/21/penangtakes-lead-in-usi ng-ai-predictions-to-beat-dengue/

The Sun Daily

"Penang Becomes First State in Malaysia to Use AI to Combat Dengue"

https://www.thesundaily.my/archive/penang-becomes-first-state-msia-use-aicombat-dengue-updated\(\text{UARCH513429} \)

Penang State Government Official Portal

"The Signing Of Memorandum of Understanding Between Penang State Government & AIME Sdn Bhd"

https://www.thestar.com.my/news/nation/2017/12/21/penang-takes-lead-in-usi ng-ai-predictions-to-beat-dengue/



Honours & Awards

- Top Public Health Innovators, Harvard University
- United Nations "Groundbreaking Solutions for the development of the Sustainable Development Goals", United Nations
- United Nations Young Leader Award http://sdgyoungleaders.org/meet-rainier/
- Ist Place, Pistoia Mini Startup Challenge, awarded by King's College London
- Initiative recognised by the Clinton Foundation
- Invitation to speak on #Tech4Health as a panelist at Chatham House in London
- General Assembly of the Organization of American State - finalist in the Latin American competition TIC AMERICAS
- Top 8 Startup Channel NewsAsia, Singapore
- Top Health Startup, PitchGov SP



- Forbes Top 40 World Changers
- Project selected to form part of the first batch of Webe Community's social projects, organised by Telekom Malaysia. Malaysia



CNN



Al and big data joins effort to predict deadly disease outbreaks

(CNN) — Rainier Mailel's journey started with an infection. Dengue fever, ripping through mother's body when he was 14 years old.

Fever, headaches, vomiting, muscle and joint pains, transmitted by a mosquito bite in his native Dominican Republic. All too common in the tropics – and with cases rising dramatically in recent decades according to the World Health Organization – Dengue can become life-throatening. Although there is a vaccine, there is no specific treatment once contracted.



"I felt powerless," Mallol reflects, 12 years later. His mother was one of an estimated 390 million Dengue infections every year, one of an estimated four billion people at risk of Dengue infection globally.

War on dengue: Tackling financial cost of unplanned outbreak management

September 2, 2016 16:46 M

The disease-outbreak predicting application modelled by start-up company Artificial Intelligence in Medical Epidemiology (AIME) paves the way for better financial management in the event of unprecedented dengue outbreak

AIME's main researcher and co-founder Dr Dheis Baha Raja together with Prof Ting Choo and Dr Peter Ho from Singularity University's Graduate Studies Program engineered a machine learning model and application with the capability to predict dengue authorisk as early as three months prior to an epidemic which could help in managing the financial costs involved.

Or Dhesi said, dengue creates a serious impact on countries' economies, with about US\$440 million spent per country.

"When countries do not know where the next outbreak will happen, public health officials tend to spend valuable resources in management control techniques such as fogging, lanvoiding, genetically modified mosquitoes and health awareness campaigns." he said.

startupdaily.

Google Flu Trends may have failed, but MedTech startup AIME has uncovered the secret to predicting viral disease outbreaks

SANGWARDS DESIGNATION OF

A section

Infectious Disease: The Beginning Of The End

Brian Rashid Former Contributor @

Oct 12, 2016, 09:00am: EDT

O This article is more than 7 years old.

You vomit. You sweat. You get a rash. Your body hurts all over. You may even die. Not fun.

Every year, 2.5 billion people are at risk of catching Dengue fever.

And there is almost nothing you can do about it. I was told that
there is no current vaccine for Dengue fever. I was surprised this
was true, but according to a bunch of sites on the internet, it is
true. Also not good. So if there is no current vaccine, what is the
solution?

Prevention. But how?

AIME (Artificial Intelligence in Medical Epidemiology) is a company out of Singularity University that developed an algorithm capable of predicting outbreaks of Dengue. I have written about Singularity University before, but basically it assembles the best and brightest minds from around the world to solve problems that affect one billion people. In fact, Singularity only works with people that focus on solutions that will help at least 1 billion people. I love Singularity University. I go any chance I get. AIME is a perfect example of the genius that comes from the program.

astro AWANI

Technological advancements has allowed the healthcare industry to shift from a reactive to preactive mode over the last five years. For example, Australian HealthTech startup Fitgenes has developed a commercial solution, Pracware, that mines individuals' DNA and pathological data for variables that are indicative of future health problems. That data is then analysed and turned into actionable insights, with the main objective being delaying the onset of agoing-related diseases and preventing conditions through lifestyle interventions. What's been tacking in healthcare industries worldwide, however, is fechnology that can decipher environmental data and predict areas at risk of viral disease outbreaks. A US-headquartered startup AIME uses artificial intelligence to do just that, with its first focus being dengue fever, a tropical mosquitch-borne disease.





Massachusetts Institute of

Technology

HARVARD

SCHOOL OF PUBLIC HEALTH









Singularity**HUB**











Home Grown, Globally Known



Japanese Government Overseas Development Agency

We were invited to showcase its technology to JICA in October 2018. JICA is the Japanese Government's Overseas Development Agency (ODA), which is responsible for the funding of health-related activities in third world countries such as Nepal, Bangladesh, and Lao P.D.R. JICA was interested in using our predictive technology in their roll-out for services in Maternal & Child Health and Infectious Disease Surveillance.



International Medical University

We were among three panellists presenting Al's role in dengue epidemiology and prediction in September 2018. The workshop, attended by Malaysia's Ministry of Health and UK's University of Strathclyde, focused on advancing dengue modelling for public health and vector control strategies.



Medicine Sans Frontiers

We participated as a panellist through a web-conference, demonstrating its AI engine, REDINT, and showcasing ANTIBION, an exciting new product in its R&D pipeline. The session focused on using AI in disease control, agriculture, and aquaculture to counter climate change's effects.



Home Grown, Globally Known



Cable News Network

We kicked off 2019 with a CNN documentary, resulting in significant traction. Dr Helmi Zakariah represented the company, demonstrating AI for global health surveillance at a forum attended by various policymakers and organisations, including Mitsubishi Science & Research, GAVI, IVI, CEPI, and the Bill & Melinda Gates Foundation.



Singapore

The forum in Japan made waves into the pharmaceutical industry, which then invited us to present at Asia Pacific's largest pharmaceutical regulatory forum, DIA Asia - Pacific 2019.



MIT Caribbean

With our venture expanding beyond its conservative vector-borne diseases into areas such as Antimicrobial Resistance and Agriculture, we were invited as a panellist in MIT's EmTech Caribbean forum for a session entitled "Creating Positive Impact through Artificial Intelligence".



Home Grown, Globally Known



Cambodia

Our interview with award-winning journalist Dr Mahlet Zimeta on Al deployment in low-income nations like Cambodia was published in "The Diplomat" in October 2018, gaining recognition from international agencies like the United Nations.



Tokyo, Japan

In December 2018, alongside the theme of Sustainable Development Goals, we were invited to exhibit our technology and won The Outstanding Young Persons Award 2018.



Vietnam

The year 2018 ended with an invitation to Hanoi from Vietnam's Ministry of Public Health to demonstrate the applicability of using our technology for dynamic disease surveillance and predicting antimicrobial resistance within the health facilities.



Laos National Centre for Laboratory and Epidemiology

As part of Al.rbo's pilot deployment in Vientiane, Laos, local professionals got a closer look at how its enhanced analytics and predictive algorithm work.



Home Grown, Globally Known



B2B Partnership with Pulse by Prudential

Prudential UK invited us to embed its dengue prediction technology into their innovative Mobile App "Pulse by Prudential". This collaboration facilitated the dissemination of dengue prediction information to the public.



Malaysia

The hard work and dedication of our team, supported by the SMART Fund grant from MESTECC, were acknowledged in April 2019. The then Malaysia's Minister of Health, Dr Dzulkefly Ahmad, announced the nationwide implementation of our Al technology to combat the rising number of dengue outbreaks after the National Dengue Task Force Meeting 2019.



Harvard Global Health Institute

Hayat Chief Executive Officer Dr Helmi Zakariah was featured in an interview where he discussed developing a QR-based contact tracing tool using machine-learning algorithm to mitigate the transmission of Covid-19 in Selangor, Malaysia's most populous state.

































Through our projects and partners worldwide, we've established a strong track record.

Join us in exploring new possibilities together.





https://myhayat.my



Hayat Technologies



info@myhayat.my



+603-2711 9811