National Applied R&D Centre

MIMOS
RETROSPECTIVE 2021

MIMOS

Reimagining
Innovation

Innovation for Life™

HIGHLIGHTS

HIGH IMPACT

Renewable Energy | Electric and Autonomous Vehicles |
Manufacturing | Primary Industries | Targeted ICT Technologies

BATTLING COVID-19

Vaccine Management and Certificate Ecosystem | COVID-19 Immunisation Task Force (CITF) |
Sentiment Analysis and contact tracing | Keeping workplace safe

ICT SOLUTIONS FOR THE GOVERNMENT

TPC-OHCIS | SMART Lock-up | Government Online Services Gateway |
Food Safety Information System | e-Procurement System |
Digital MATRADE | GIATMARA

SUPPORTING INDUSTRIAL DEVELOPMENT

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Reimagining Innovation

COVID-19 is here to stay and we have to get used to managing our lives while having the virus in our midst. We have come to terms that we have to live with the virus, resume life, albeit in a different, safer manner with new norms.

As we go on with our lives, it is business as usual for MIMOS. In this day and age, transformation is inevitable as technology has become more competitive and the fact that winning factors have evolved compared to 20 years ago. Enterprises and businesses across the globe brace for a strategic business transformation in view of the current situation, and this is no different in MIMOS.

As the country is driving economic growth by leveraging the technology sector, MIMOS has redefined its pathway and embrace transformation to drive stronger future impacts. This year's publication rounds up MIMOS' research and development (R&D) and technology pursuits; commitments and contributions in driving digital transformation throughout the year.

It is about reimagining MIMOS and strengthening our economic impact-driven and strategic-driven R&D activities. We continuously worked with Government ministries, agencies and Government-linked organisations, private companies, universities and research institutes to develop technological innovations that meet industry needs for value creation and address real-word problems.

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HIGHLIGHTS

MIMOS has embarked on a slew of R&D programmes that are focused on economic impact-driven and strategic-driven sectors towards delivering better outcomes for the nation. MIMOS also continued to develop solutions to address the issues of ongoing COVID-19, implement numerous government-related ICT programmes and support the national industrial development.

HIGH IMPACT R&D

Malaysia is geared to achieve sustainable growth along with fair and equitable distribution, across income groups, ethnicities, regions and supply chains as outlined in the Shared Prosperity Vision 2030.

It is a commitment to strengthen political stability, enhance the nation's prosperity and ensure the unity of the people whilst celebrating ethnic and cultural diversity as the foundation of the nation state.

Moving towards the vision, the government has introduced various national plans, one of which includes the Twelfth Malaysia Plan (12MP) which aims to achieve a prosperous, inclusive and sustainable Malaysia. Several key policy enablers have been outlined with the goal of accelerating technology adoption and innovation through intensifying research, development, commercialisation and innovation (R&D&C&I) as well as capitalising on the potential of emerging technologies.

To support the government's national aspiration, MIMOS' has consolidated its focus to accelerate R&D in E&E, with a particular emphasis on high-value electronics for critical future industries (HECFI), and Information and Communication Technologies (ICT).

MIMOS has ventured into high-impact R&D areas namely renewable energy and future grids; electric and autonomous vehicles; manufacturing, automation and sensory in primary industry, and selected ICT technologies, which are funded by MP12 and Scientific Research Funds (SRF). The R&D activities are undertaken to support the various national plans such as 10-10 Malaysian Science, Technology, Innovation and Economy (MySTIE) Framework; Malaysia Renewable Energy Roadmap (MyRER), National Policy on Industry 4.0 – Industry4WRD and National Robotics Roadmap, just to name a few.

Renewable Energy

Renewable energy (RE) is derived from natural resources or sources that can be naturally replenished such as wind, solar, geothermal heat, waves, and biomass. RE resources have become one of the most competitive energy sources in many locations due to rapid technological advancements and decreasing costs.

According to International Energy Agency (IEA), the annual renewable capacity additions increased 45% to almost 280 GW in 2020– the highest year-on year increase since 1999.

The IEA Renewable Energy Market Update 2021 also revealed that the photovoltaic (PV) development will continue to break records, with annual additions reaching 162 GW by 2022, almost 50% higher than the pre-pandemic level of 2019.

This has prompted MIMOS to put its focus on RE and future grids technologies which include solar generation (solar cell, power conversion, PV monitoring, HEMT development); energy demand side management (smart meters, energy monitoring); and energy storage (grid storage, residential storage), with the aim to accelerate the development of products and technologies in RE and future power grids.

The R&D in RE is part of MIMOS' support for the MyRER to achieve the national aspiration of 31% RE capacity by 2025 and 40% by 2035. According to the Ministry of Energy and Natural Resources, the target supports Malaysia's global climate commitment to reduce its economy-wide carbon intensity (against GDP) of 45% in 2030 compared to 2005 level.

While there are other renewable energy options such as hydro and wind, Malaysia has some of the world's highest solar potential due to its location in the equatorial zone.

Thus, MIMOS is working on large scale solar (LSS) solutions, a renewable green energy initiative that is set for a massive generation capacity to come online across Southeast Asia over the next five years.

The technology and module development of the LSS solutions include Multi Axis Trackers controller that controls, orients and optimises PV panels direction for maximum power output, with PV Control module using built-in computing, localised cloud-based analytics and automated cleaning features through real-time remote monitoring.

Other MIMOS' RE-related R&D are integrated micro inverters and power optimiser hardware and software solutions, both of which are for real-time monitoring and performance optimisation. The solutions incorporate advanced technologies including Power inverter – AC/DC, Signal Conditioning, MPPT, Power Devices and Embedded Controller.
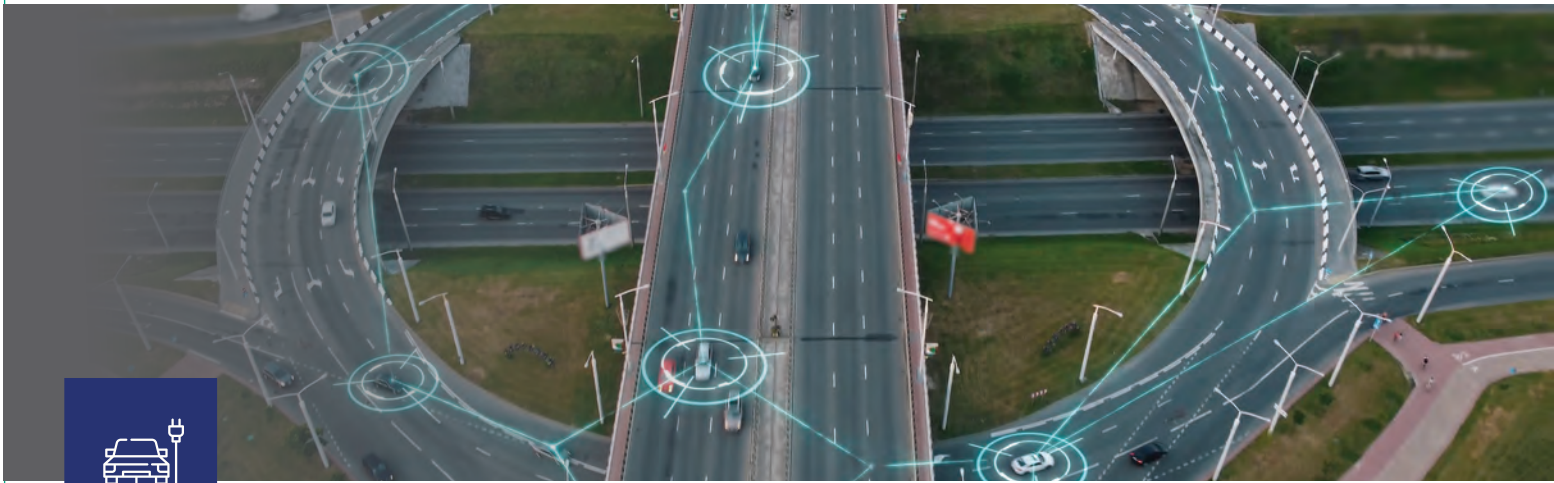
Electric and Autonomous Vehicles

MIMOS has kicked off R&D efforts to accelerate electrified and autonomous mobility for local product and technology development. This includes projects such as on-board systems for autonomous driving (sensors, compute, software), on-board systems for drivetrain and power (motors, batteries, fuel cell) and infrastructure (charging stations, battery swapping).

The projects are aimed at achieveing 40% local content in EV and AV manufacturing technologies by 2030, boost electronics exports by 5% by 2030 and develop 15 technologies of products.

Such initiative is also to champion the government's efforts to accelerate the EV growth and strengthen the EV ecosystem in Malaysia, in line with the Budget 2022. MIMOS welcomed the measures by the government to develop EV industry, with the allocation of full exemption on import and excise duties as well as sales tax for EVs, with a road tax exemption of up to 100 per cent.

The Budget 2022 also allocates individual income tax relief of up to RM2,500 on the cost of purchase, installation, rent, hire purchase as well as subscription fees for EV charging facilities, and provides incentives for EV ownership.

According to Malaysian Automotive Association (MAA), the country has about 274 EVs, fully battery-powered electric vehicles (BEVs) as of December 31, 2021.

Over the past decade, the global sales of electric vehicles (EV) have been growing at a remarkable rate, when EV sales more than doubled from three million units in 2020 to 6.6 million units in 2021, according to IEA Report.

The report said there are approximately 16 million electric cars on the road worldwide, consuming roughly 30 terawatt-hours (TWh) of electricity per year.

China led global growth in electric car markets in 2021 as sales nearly tripled to 3.4 million. In Europe, electric car sales increased by nearly 70% in 2021 to 2.3 million, about half of which were plug-in hybrids. In absolute terms, Germany was the largest electric car market in Europe in 2021.

Manufacturing

Manufacturing technology continued to be at the forefront of manufacturing sector trends as companies look for new ways to optimise processes and efficiencies. Computer-integrated manufacturing, high levels of adaptability and rapid design modifications as well as digital information technology are all part of smart manufacturing.

The outbreak of COVID-19 has triggered the manufacturing sector to re-evaluate its traditional production processes, primarily driving the digital transformation and smart manufacturing practices across the production lines. As a result, the need for automation has witnessed a sudden spike across the globe.

The Global Smart Manufacturing Market was valued at USD 172.60 Billion in 2020, and it is expected to reach USD 236.12 billion by 2026, registering a Compound Annual Growth Rate (CAGR) of 5.75% during the forecast period, 2020-2026.

In Malaysia, the Industry4WRD: National Policy on Industry 4.0 was introduced by the government in response to calls for digital transformation of the manufacturing sector and related services. The policy is to facilitate companies in adopting Industry 4.0 in a systematic and comprehensive manner, enabling them to become smarter and stronger as a result of people, process, and technology.

MIMOS' R&D activities under the manufacturing sector includes the development of Track and Trace Systems for Efficient Management of Asset and Personnel Tracking, a system that utilises ultra-wide band network, indoor positioning, location data analysis and Internet of Things. The system is capable of tracking human movement and static assets and has high accuracy tracking using two way ranging targeting SME factory set up.

MIMOS is also working on enhancing and scaling up current Malaysian vision inspection players, by developing automated high accuracy inspection (AOI) system utilising high speed photography, machine learning algorithms, IoT and cloud ready with big data analytics and AI/ML computation to improve defect detections and improve yield and efficiency.

Another project in the pipeline is low cost smart connectivity module for home and industry applications and for mass manufacturing.
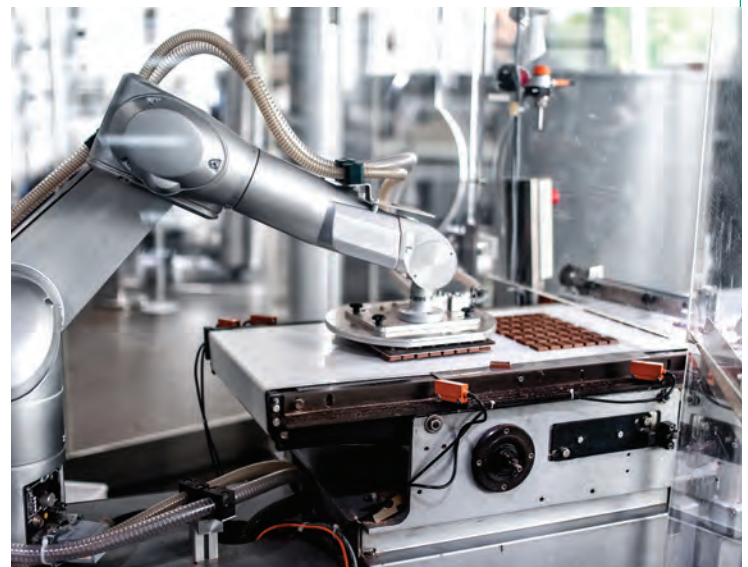
Primary industries

Primary Industries is one of the sectors of a nation's economy which include agriculture, forestry, fishing, mining, quarrying, and the extraction of minerals.

Advanced agricultural technologies such as robotics, temperature and moisture sensors, aerial photographs, and global positioning system technology are in high demand, as they allow the industry to become more profitable, efficient, safe, and environmentally friendly.

According to Agriculture Global Market Report 2021: COVID 19 Impact and Recovery to 2030, the global agriculture market is expected to grow from $9602.79 billion in 2020 to $10181.92 billion in 2021 at a compound annual growth rate (CAGR) of 6%.

The report stated that Asia Pacific was the largest region in the global agriculture market, accounting for 57% of the market in 2020. South America was the second largest region accounting for 12% of the global agriculture market while Middle East was the smallest region in the global agriculture market.

Closer to home, Malaysia's agriculture sector ranked second in terms of trade, surpassing mining products in 2020, despite the decline in its relative contribution to the Malaysian economy and trade over the years.

To support the agriculture sector, MIMOS has developed a rapid, non-destructive, non-chemical and real-time near-infrared (NIR) spectroscopy analytical measuring system for crude palm oil (CPO) quality screening.

It is an inline prediction tool instrument using NIR optical fingerprint to analyse the quality level of CPO, making it an innovative and cost-effective solution to evaluate and monitor CPO quality during the milling process.

The analyser system features a built-in chemometric analysis model to measure and perform quality monitoring by quantification of Free Fatty Acid (FFA), water content and oil content. The system also incorporates artificial intelligence, optoelectronics, IOT, big data analytics as well as communication and cloud infrastructure.

The development of such system is to address the issues of the titration, a conventional process to monitor and measure Diluted Palm Oil quality which is laborious and risky due to hazardous chemicals involved. This time-consuming evaluation method also put the stakeholders at risk of storing production palm oil in the wrong storage tank, whereby it could cause losses in approximately RM600,000 per year for each mill (RM271.2 million annually in total loss for all mills in Malaysia).

The proof-of-concept (POC) was deployed at the Sime Darby mill, and potentially could be deployed to all 452 mills across Malaysia.

Apart from that, MIMOS is also developing AI-automated solution to boost palm oil fresh fruit bunch yield. The solution is to support the palm oil industry to increase productivity and waste reduction, particularly the revenue loss due to harvesting of unripe fresh fruit brunch.

The solution employs digital location and tree tagging technologies using Global Navigation Satellite System (GNSS) with RTK, including visual perception technology, advanced analysis and modelling, and wireless communication. Applications of these innovative technologies had enabled the industry growers to undertake digital mapping of palm trees to determine harvesting and planning locations, and object detection for ripeness classification.

Targeted ICT Technologies

MIMOS continues its R&D in ICT to bring them to a globally competitive and sustainable level with high value add.

MIMOS' ICT works include the use of artificial intelligence (AI), edge computing and blockchain, among others, to support the nation's needs by focusing on large scale infrastructure platforms especially in areas involving national security, data sensitivity and e-government services.

One of its ICT R&D programme is to accelerate blockchain development by focusing on people projects (such as halal traceability systems); industry projects (energy tokenisation and trading systems, blockchain system for custom Authorised Economic Operator), as well as Government projects like Blockchain-based procurement system.

The programme aims to develop blockchain infrastructure, technologies and products towards creating a trusted and reliable source of data and transactions across Rakyat, Government and commercial services.

In addition, the blockchain-related projects are also to support multiple STIE socio-economic drivers inclusive of energy, business, transportation, food, and agriculture, as articulated in the National Blockchain Roadmap. The tchnology opportunity includes traceability, tokenisation, smart contracts and security.

Its benefits to the rakyat would be to improve the rakyat's lives/services, while for the Government, it would promote robustness, efficiency and transparent service. In terms of commercial or industry, it would heighten efficiency and productivity.
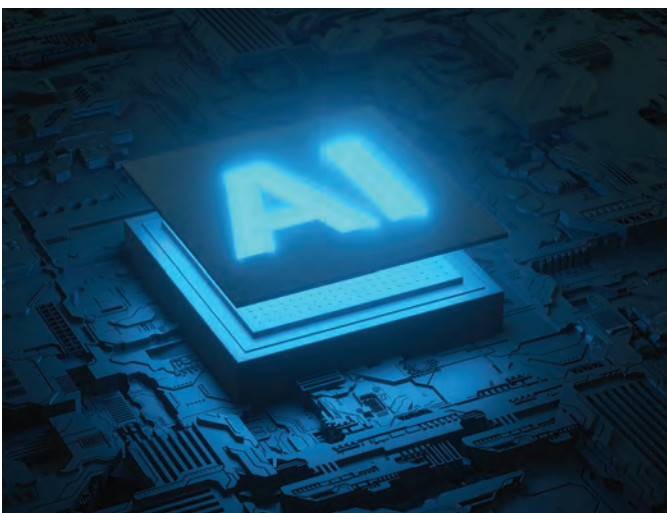
BATTLING COVID-19

MIMOS has redoubled its efforts to address pandemic concerns by developing and deploying technological solutions to mitigate the pandemic impacts. The COVID-19 also has also caused us to modify several of our business practices and operations such as implementing remote working as we believe in the best interests of our employees, customers, partners, suppliers and other stakeholders.

Vaccine Management and Certificate Ecosystem

With the ongoing COVID-19 pandemic, the deployment by MIMOS of its latest Blockchain-based innovation, Vaccine Management and Vaccination Certificate Ecosystem has made travelling domestically and abroad easier for those fully vaccinated.

The ecosystem consists of high-assurance systems that track and trace the vaccine supply chain, generate digital vaccination certificates and verify the authenticity of digital health certificates, with tamper-proof record-keeping and privacy protection.

Developed in accordance with international standard, the ecosystem undergoes a thorough and elaborate process that features three unique subsystems:

a) **Vaccine Management System (VMS)**

VMS is a system that tracks and traces vaccine supply chain using Blockchain technology developed by MIMOS. The system ensures record-keeping of vaccine movement is of the highest trustworthiness, up to the point of injection into a particular person.

Besides tracking and tracing vaccine movement, VMS also records vaccination events. The system, developed in collaboration with the Ministry of Health, can be used not only for the Covid-19 vaccines, but also for other vaccines in Malaysia.

b) **Vaccination Certificate System (VCS)**

The system issues certificates that attest a person has been vaccinated and outline details of that particular vaccination, in addition to providing irrefutable proof of vaccination to enable travel and access to services.

The system protects signing key inside Hardware Security Module (HSM) in compliance with World Health Organisation guidance. It also enables offline verification by third party.

c) Vaccination Certificate Verifier (VCV)

VCV is an app that verifies vaccination certificate as valid and issued by the Ministry of Health (MOH) or other recognised authorities. It is also tasked with online query certificate verification and detection of fraudulent certificates. The app support certificates from multiple countries and protects privacy.

Both VCS and VCV went live in September last year. Spearheaded by Foreign Ministry, MIMOS is working with MOSTI for mutual recognition of COVID-19 vaccination certificates with other countries. MIMOS provides technical review with all the countries identified.

Meanwhile, Vaccination Certificate Verifier (VCV) app verifies vaccination certificate as valid and issued by the Ministry of Health (MOH) or other recognised authorities. MIMOS provided technical review for COVID vaccination certificate for mutual recognition, completed for Singapore, while in process with 27 EU Member States, China, Thailand and a few other countries.

The CITF dashboards provide the CITF with clear, reliable and up-to-date information for rapid policy making. It is integrated with Third Database, MyVAS, MySejahtera, VMS, DOSM and JUPEM data. Registration, vaccination & logistic data in the dashboard are shared with CITF and states.

For COVID management sentiment analysis, it provided CITF on COVID-related sentiment analysis that was built using MIMOS' patented AI-based Text Analytics platform and other data technology. The CITF was provided three analysis reports every week since March 2021.

Sentiment analysis and contact tracing

Another initiative to combat COVID-19 is the development of Malaysia COVID-19 Information Hub (MyC19) that provides quick and customisable sentiment analysis on COVID-19 related issues. The analysis enables the Government and relevant authorities to take necessary actions and communicate to the the general public quickly, accurately and more effectively.

COVID-19 Immunisation Task Force (CITF)

Another initiative was setting up the 'war room' data dashboard used by the COVID-19 Immunisation TaskForce (CITF) to track and manage the daily progress around the national vaccination programme.

COVID-19 Immunisation TaskForce (CITF) to track and manage the daily progress around the national vaccination programme. Cross-cutting datasets such as registrations, appointments, vaccine supply and vaccine distribution across different vaccination centres are consolidated and displayed to help decision makers make critical decisions around the programme on a daily basis.

A contact tracing app called MyTrace, on the other hand, uses Bluetooth signal to track people who have been in close proximity with Covid-19 patients.

MIMOS played its part as a technology contributor for MyTrace, where collects mobile data, without geolocation tags, which are then anonymised. The application applies a community-driven approach where participating devices exchange proximity information whenever it detects another device with MyTrace. MyTrace has been available for download from Google Play Store and Apple App Store.

Battling COVID-19

Keeping workplace safe

With the safety and wellbeing of our people in mind, MIMOS continued to enhance our Health, Safety and Environment measures and outline strategies for maintaining operational continuity and SOPs that enable our employees to continue carrying out their responsibilities during the pandemic.

Some of MIMOS' actions include accelerating the vaccination for its frontline staff under the Public-Private Partnership Industrial Covid-19 Immunisation Programme (PIKAS), as part of its support for the National Recovery Plan.

In the time of COVID-19 pandemic where physical distancing is crucial to curb the spread of the disease, such technologies are useful to remind people to keep their distance and adhere to the standard operating procedure (SOP).

With its technological capabilities, MIMOS has developed Physical Distancing Monitoring Tool, an AI-powered monitoring system that can issue an alert when anyone doesn't practice physical distancing.

The camera system detects movement of people and their distance from one another. People who remain more than one metre apart would be highlighted in green circles. If a person failed to follow the stipulated distance, he or she will be indicated in red circles, thereafter triggering a warning siren. The system is currently being installed at MIMOS' campus in Bukit Jalil.

We have also installed a sensor to measure carbon dioxide levels in each main meeting room within MIMOS campus. Apart from that, COVID-19 Antigen Rapid Test Kits (RTK) have been made available to all MIMOS staff for COVID-19 self-screening.

MIMOS will continuously contribute to the nation's recovery efforts through its ongoing operational and market-driven R&D activities.

ICT SOLUTIONS FOR THE GOVERNMENT

The ICT Solutions projects for the Government were mainly to enhance, optimise and efficiently deliver its public services to the community. In 2021, we deployed some of our ICT solutions for the Government including cloud technology, cybersecurity and Artificial Intelligence (AI) for MyGovernment Online Services Portal (MyGOV), among many others.

a) TPC-OHCIS

The Tele-Primary Care and Oral Health Clinical Information System (TPC-OHCIS) for the Ministry of Health (MoH) was further enhanced by incorporating edge data caching to enable the system to function in limited connectivity situations.

Among the key areas of improvement for the TPC-OHCIS project for MoH were the development of a holistic clinical information system for health and dental services; supporting the National Digital Health Reform initiative to improve health towards a resilient and sustainable healthcare system; and integration to external systems that are compliant to international standards and protocols.

Following the deployment of 10 dental and six health clinics in Seremban, Negri Sembilan, the system recorded 500,000 patients and 2.5 million patient visits.

The project is scheduled to targeted to exercise on-going deployment of 21 dental and 96 health clinics across six states and in Kuala Lumpur in the first quarter of 2022.

HIGHLIGHTS

b) SMART Lock-up

Machine vision and artificial intelligence (AI)-powered cameras are gaining traction due to their ability to spot the subject's movements, read people's temperature and can even detect suspicious behaviours.

MIMOS has also deployed the SMART Lock-up, an intelligent surveillance system that integrates advanced video analytics for early detection of suspicious behaviours to aid rapid response.

The technology provides high accuracy and low false alarm rates, early intervention and rapid response to prevent incidents such as fights, vandalism or other misbehaviours, and real-time alerts for round-the-clock monitoring.

The SMART Lockup system is developed by MIMOS in collaboration with Royal Malaysia Police and has significantly improved the productivity and effectiveness of the monitoring process in prisons.

The AI-based machine vision helps reduce burden on manual surveillance of conditions in police lockups. It uses perception Machine Learning-based technology to determine limb movements of inmates to detect aggressive behaviour, tampering, vandalism etc.

To date, the video surveillance system has been deployed to a total of 98 sites (across 3 phases); central lockups (e.g. Jinjang), IPKs and IPDs.

It is targeted to deploy to at least an additional 90 sites under its Phase 4 programme.

c) Government Online Services Gateway

MIMOS was responsible for the development of the gateway to host an online government services in a single one-stop portal known as the Government Online Services Gateway (GOSG).
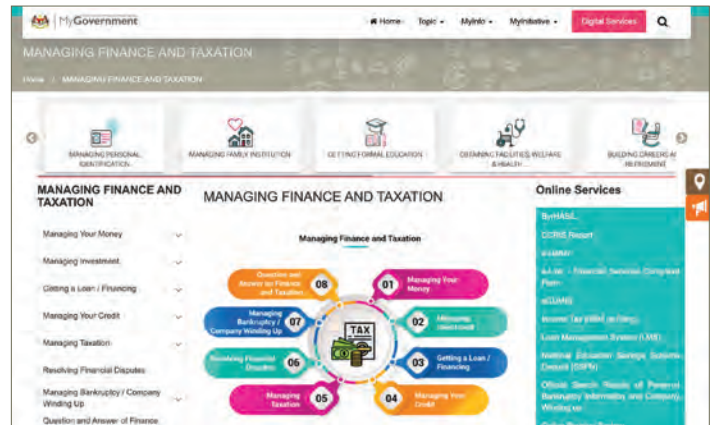
The GOSG project was commissioned by the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU).

The gateway integrates to a host of other government public delivery services, with objective to eliminate silo workings among departments and also to encourage ease of communications and transactions for the Malaysian citizens and general public.

Following the deployment of GOSG, it has uplifted Malaysia's e-Government ranking from position 60 to 47.

Registered with more than 123,000 registered users, the system integrates 383 services covering nine live events. It is also linked to 865 agencies providing services to the general public.

d) Food Safety Information System

The Food Safety Information System of Malaysia (FoSIM) launched in 2003 utilizes ICT, to improve food safety control measures on imported foods and enhance the safety of food for the consumers.

FoSIM monitors, governs and presents traceability information about food products from farm to fork. It is a one-stop web-based system that caters to various user groups namely public, food importers, exporters, handlers and the Health Ministry of Malaysia.

It aims to protect the public against food related hazards and frauds, as well as to promote and motivate the preparation, handling, distribution, sale and consumption of safe, high quality food.

Keeping in line with latest development in the digitalised world, MIMOS was commissioned by the Ministry of Health to upgrade its Food Safety Information System with the development of a single centralized portal and dashboard for food industry that is accessible via web and mobile devices.

This system enables the automation of workflow related to act on enforcement towards ensuring the necessary guidelines on food safety and controls are strictly adhered by the relevant stakeholders.

The system covers 147 offices of the MOH Food Safety and Food Control Division throughout the country. It has 127 system modules integrated into application to facilitate the food supply chain from import to export.

e) e-Procurement System

The ePerolehan System is the de facto procurement system of the federal government and the impetus for the development of e-commerce. It has catapulted Malaysia into the digital economy era as a leading electronic government procurement system.

In line with the implementation of the GTP 2.0 focusing on tighter security features and closer monitoring, an easy to operate system, strict in transparency and accountability, and user requirements, the Ministry of Finance is currently developing a new ePerolehan System to replace the existing system.

MIMOS was appointed to develop an upgraded and automated procurement system that consolidates multiple suites (consulting, eP, 1GFMAS, J10 JKR) with spending and reporting analysis capability. It also validates the health status of Government spending.

This new ePerolehan System, based on the strategic procurement process, will replace the operational procurement process adopted by the existing system. Apart from offering all the features of the existing ePerolehan System, the new system will also allow the government procurement planning process to be done more effectively. Monitoring can also be carried out more meticulously to regulate the activities of suppliers.

To date, it has 10,360 registered users from various ministries and recorded 9,55 million instances of procurement data processed. It significantly increases the level of IT proficiency within the workforce in both government and private sectors.

For suppliers, the efficiency and consistency of ePerolehan allow for more effective procurement planning by suppliers, as auto-generated processes reduce business operating costs due to quicker turnaround time.

f) Digital MATRADE

Malaysia External Trade Development Corporation (MATRADE) targets to boost its performance with trade management and enterprise system to facilitate trade promotion and growth expansion.

Developed by MIMOS, the MATRADE enterprise application will also be employed for talent and performance management.

Integrating five sub-systems to enhance trade and facilitate information dissemination, the system is expected to be utilised by some 500 users with MATRADE's offices in the country.

g) GIATMARA

Realising the importance and need of processing its data and management digitally, GIATMARA has engaged MIMOS to develop an integrated Information Management System (GIIMS).

The integrated information management system will be used by GIATMARA's headquarters and its 14 state offices as well as 231 centres nationwide.

GIATMARA aims to provide technical and vocational skills training to youths in rural areas and in towns in acquiring skills to become skilled work force and technical entrepreneurs. It is also to meet the needs of the industry, needs of economic development and entrepreneurship within local areas and in the country.

HIGHLIGHTS

SUPPORTING INDUSTRIAL DEVELOPMENT

MIMOS continued to contribute to the productivity and competitiveness of local E&E industries through the provision of advanced analytical services as well as capacity and capability building.

MIMOS has rendered a total of 1,634 analytical services to various organisations and research institutes, 1,528 of which were in Failure Analysis, 101 were from the Reliability Lab and five other services.

Throughout 2021, a total of 1,163 engineers, graduates and students were trained using MIMOS competency syllabus which included E&E and cutting-edge technologies courses.

Of the total, 784 engineers, lecturers and students have benefited from E&E and advanced skills training in the area of Failure Analysis, Material Analysis, Reliability Engineering, IC Design and Wafer Fabrication, among others. Under the Post-School Finishing Programme (PSF), MIMOS trained 308 graduates in National IC Design Talent Development. PSF is a programme held in collaboration with the Ministry of International Trade and Industry (MITI), Malaysian Investment Development Authority (MIDA), Ministry of Education (MOE), Electrical and Electronics.
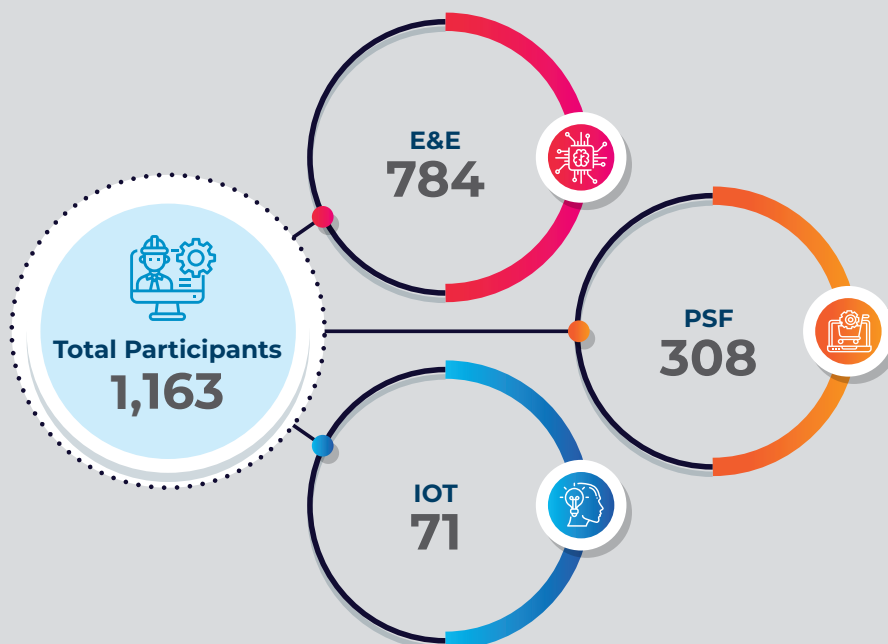
Additionally, MIMOS played a role under the National IoT roadmap where the agency provided an IoT development training programme for 71 participants to hone their technical skills in the IoT area.

TECHNICAL SERVICES

Others
5

1,634
Services
Completed

Failure Analysis
1528

Reliability Lab
101

MIMOS SKILLS DEVELOPMENT PROGRAMME 2021

E&E
784

Total Participants
1,163

PSF
308

IOT
71

Knowledge Sharing

As a vibrant centre of excellence and discovery, MIMOS believes that knowledge is much more influential and meaningful when it is shared. MIMOS continued to reach out to the public through online talk series, webinars, exhibitions, and conferences to spread awareness of its R&D efforts, innovations and technological know-how.

First Quarter

25 January 2021
Industrial Design Forum: How Design Respond to Covid-19'

Industrial Design Forum: How Design Respond to Covid-19' conference highlighted MIMOS' Product Design and Digital Modelling's capabilities and its contributions for the healthcare sector.

8 February 2021
Virtual Reality Design Talk and Exhibition (VDEX)

Virtual Reality Design Talk and Exhibition (VDEX) saw experts from creative and design industry turned themselves into VR mode to discuss how designers overcome the pandemic challenges.

2 March 2021
Failure Analysis Advanced Technologies and Techniques

MIMOS hosted 'Failure Analysis Advanced Technologies and Techniques' to highlight the latest analysis tools that can further improve the industry's productivity performance.

4 March 2021
BRU-NAPC Dialogue Session: Lesson Learned on Peatland within the Region

MIMOS had a knowledge sharing session with its counterparts from Brunei and Indonesia during 'BRU-NAPC Dialogue Session: Lesson Learned on Peatland within the Region.'

6 March 2021
Tech Talk: AI and IoT in Industries

Tech Talk: AI and IoT in Industries covered topics on data-driven ecosystem from sensory to analytics; IoT communications protocols and traditional data collection systems.
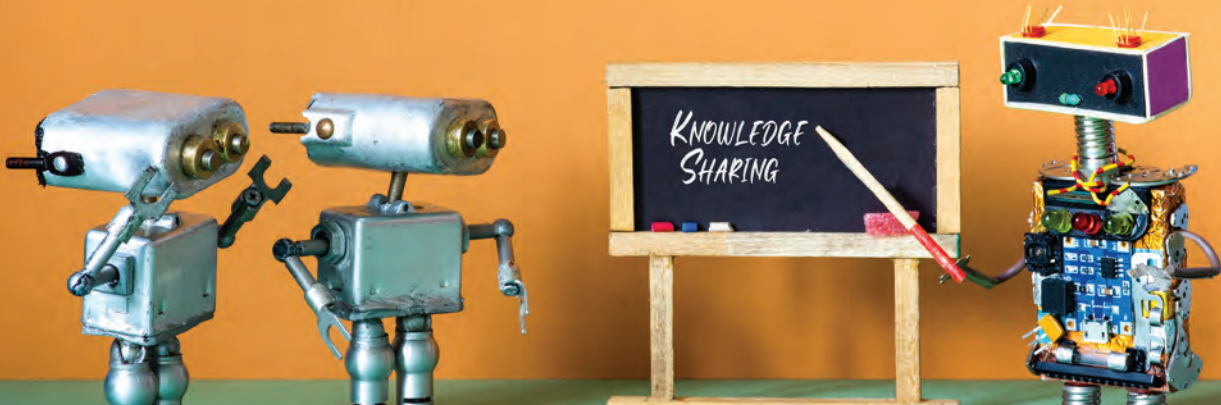
Second quarter

1 to 7 April 2021
National Science Week

During the National Science Week, MIMOS delivered online talks on integrated circuit (IC) and design development.
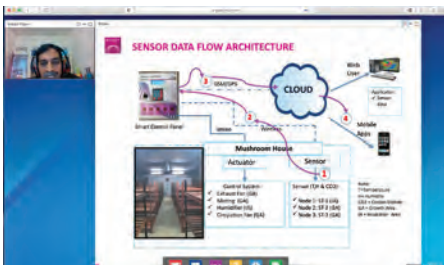
30 April 2021

The IEEE: Semiconductor Modelling Talk

The IEEE: Semiconductor Modelling Talk focused on the functions of SPICE device modelling for circuit simulations and trends in SPICE model extraction for nanoelectronics devices.

4 May 2021

The Road Ahead with Industry4WRD

MIMOS shared insights on Biz4WRD, a platform that can assist SMEs 'The Road Ahead with Industry4WRD' webinar organised by the Ministry of International Trade and Industry (MITI).

Third Quarter

3 July 2021

PEREKA World Industrial Design Day 2021

PEREKA World Industrial Design Day 2021 shed light on the benefits of Computer-Aided Industrial Design (CAID) in the industrial design world.

28 May 2021

Digitized Design-to-Manufacturing (DDTM)

MIMOS launched the 'Digitized Design-to-Manufacturing (DDTM)' programme to enhance product design capabilities among SMEs in the E&E and machinery and equipment sectors.

11 June 2021

Application of WSN in the Agriculture Industry

The "Application of WSN in the Agriculture Industry" webinar raised awareness of the integration of wireless networks and other advanced technologies into the agriculture sector.

29 July 2021

Electrical and Electronics (E&E) and Artificial Intelligence

During MyTech Pitch 5th Series Programme : 'Electrical and Electronics (E&E) and Artificial Intelligence, MIMOS talked about the opportunities offered in the E&E supply chain for innovation.

18 August 2021
Advanced Analytical Services

The Webinar on Advanced Analytical Services highlighted MIMOS' technical competencies in producing precise tests which include detecting failure mode and the root cause of failure.
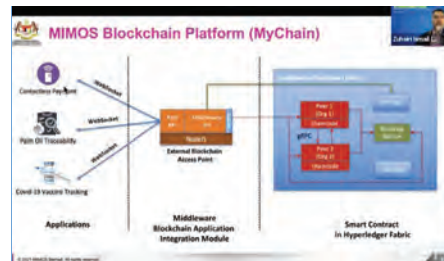
23 August 2021
Peranan Pendidikan STEM ke arah Menyokong Perpaduan Negara

MIMOS shared the agency's expertise and experiences in IoT during Peranan Pendidikan STEM ke arah Menyokong Perpaduan Negara webinar.

Fourth Quarter

12 October 021
AI and Blockchain Forum

MIMOS raised awareness of blockchain from a layman's perspective during the AI and Blockchain Forum: Disruptive Technologies of 4th Industrial Revolution.

25 to 29 October
Malaysia Technology Expo 2021

MIMOS took part in Malaysia Technology Expo 2021 Sustainable Development Goals International Innovation Awards to showcase some of its technological innovation.

25 October 2021
The 35th ideaXchange

The 35th ideaXchange "Building a Resilient Nation: STI as the enabler of the 12th Malaysia Plan" gathered insights of experts and stakeholders to strengthen the policy, governance and ecosystem of STIE.

9 to 12 December 2021
100 Days Aspirasi Malaysia

MIMOS showcased some of its Blockchain innovation at the 100 Days Aspirasi Malaysia.

2 December 2021
Launching of HRD Corp

MIMOS promoted some of its technological innovations at the Launching of HRD Corp.

In an innovation ecosystem, the establishment of partnership can present endless opportunities. Last year, MIMOS continued to forge partnerships and collaborations with the Government, research institutions, universities and companies local and abroad, to undertake collaborative research in advanced E&E and ICT technologies, among others.

Life As MIMOSians

MIMOS is where we turn dreams into reality. Our MIMOSians are always dedicated to identifying actual business opportunities and emphasising innovation. While we strive to make breakthroughs, we also embrace work-life balance. Sporting and charitable events are some excellent occasions to show that innovation is more than just technology and can also be applied in a variety of settings, including at play.

MIMOS
RETROSPECTIVE 2021