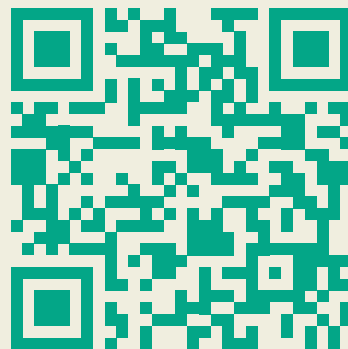


PENGERAK PERUBAHAN CHANGEMAKER



LAPORAN TAHUNAN 2024 ANNUAL REPORT



IMBAS UNTUK BACA VERSI DIGITAL LAPORAN INI



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Konsep Reka Bentuk Kulit Laporan



Kulit muka depan ini adalah cerminan peranan Akademi Sains Malaysia (ASM) sebagai Penggerak Perubahan dalam STIE, yang menggunakan imej tangan yang bertindih dan kepingan susun suai untuk melambangkan kecerdasan kolektif.

Rekaan ini simbol kepada etos ASM, menyatukan pakar, penggubal dasar, pemimpin industri dan komuniti bagi memacu kemajuan negara.

Visual tersebut mengetengahkan idea bahawa perubahan yang bermakna dibina secara progresif serta berganding bahu untuk mentransformasikan Malaysia sebagai sebuah masyarakat yang berteraskan pengetahuan.

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Misi Kami

Selaku Badan Pemikir STIE di peringkat nasional dan antarabangsa

Selaku Badan Penasihat bagi polisi STIE nasional dan perkara berkaitan

Selaku Rakan Strategik STIE di Malaysia dan antarabangsa

Menyokong dan menjadikan STI sebagai asas pembangunan ekonomi serta kesejahteraan masyarakat tempatan dan global

Melibatkan masyarakat melalui komunikasi STIE

Visi Kami

Badan Pemikir dalam Sains, Teknologi, Inovasi dan Ekonomi (STIE) ke arah masyarakat yang progresif, harmoni, makmur, dan mampan di peringkat nasional dan antarabangsa



Matlamat Kami

Selaku Badan Pemikir bebas bagi STIE di peringkat nasional dan antarabangsa

Selaku Badan Penasihat yang dipercayai mengenai dasar STIE nasional dan perkara-perkara berkaitan

Selaku Rakan Strategik penting bagi STIE di Malaysia dan di peringkat global

Selaku penggerak yang berkesan dan menjadikan STI asas bagi pembangunan ekonomi dan kesejahteraan masyarakat di peringkat tempatan dan global

Selaku komunikator STIE efektif yang menarik penglibatan orang ramai



Falsafah & Nilai Kami

Society-based/Berasaskan Masyarakat

Memposisi STIE bagi faedah masyarakat

Credible/Dipercayai

Dipercayai berkesan dan tepat

Independent/Bebas

Mengesan dan menyediakan input mengenai isu sistematik tanpa takut atau berat sebelah

Evidence-based/Berasaskan Bukti

Memastikan setiap perkara yang dilakukan akan dimaklumkan mengikut pengetahuan dan maklumat yang betul

Network-centric/Hubungan

Platform Pertemuan Ilmu Dinamik (sebagai sebuah organisasi yang menghubungkan individu bagi memanfaatkan pemegang taruh menerusi kepercayaan yang tinggi)

Transparent/Telus

Penglibatan dan proses terbuka

Impactful/Berkesan

Menggunakan cara baharu dan lebih baik untuk hasil yang lebih berkesan

Action-oriented/Berasaskan Tindakan

Mengubah inisiatif sebagai penyelesaian yang membawa kepada perubahan mampan

Strategi Kami

BEBAS

Menjadikan ASM sebagai pelopor yang berdikari dan berimpak dalam STIE

RUJUKAN

Menjadikan ASM sebagai tempat rujukan pilihan dalam semua hal STIE

BERPENGARUH

Meluaskan pengaruh ASM sebagai rakan kongsi yang dipercayai di peringkat persekutuan, negeri dan global

PEMACU

Memacu advokasi yang efektif ke arah sektor sosioekonomi yang kukuh pada masa hadapan

MAMPAN

Mendapatkan sumber yang mampan untuk organisasi progresif ke arah menyokong kepentingan negara

HIMPUNAN

Menubuhkan platform komunikasi sains dengan pihak berkepentingan yang efektif di seluruh peringkat persekutuan, negeri dan global

TANGKAS

Mempertingkatkan ketangkasan organisasi dengan mempraktikkan tadbir urus yang baik dan profesional

12 Pelan Tindakan



Memaksimumkan penglibatan pakar sepanjang perancangan STIE nasional bagi menjana idea, pemikiran dan pengetahuan



Mempergiatkan kerjasama dalam bidang strategik bersama platform akademi tempatan & serantau



Menjalankan projek demonstrasi yang boleh menterjemah idea baharu kepada tindakan dan membina kapasiti dengan rakan kongsi strategik dalam memastikan kelestarian



Menaik taraf amalan organisasi bagi mematuhi akreditasi nasional dan amalan terbaik antarabangsa



Menilai & memantau prestasi organisasi secara dalaman dan luaran untuk memenuhi hasil dan impak yang boleh diukur



Mewujudkan bersama inisiatif STIE berimpak tinggi di lokaliti untuk transformasi sektor sosioekonomi



Pemantauan
& penilaian
berterusan
ekosistem STIE
yang sistematik



Menubuhkan
mekanisme
dalam ASM
untuk menjana
pendapatan dan
memastikan
sumber yang
mampan



Menerapkan
kualiti
pengetahuan
pelbagai kepada
bakat kami
dengan memupuk
kecekapan dan
keupayaan tahap
tinggi dalam
pelbagai bidang



Meningkatkan
kecekapan &
kemahiran
bakat bagi
kesediaan masa
depan melalui
visi dengan
penyertaan
inklusif daripada
quadruple helix



Menyokong
perkembangan
kerjaya penyelidik
muda ke arah
menyemai
falsafah "*World
Class, Outstanding,
Winnable*" (WOW)



Mewujudkan
ekosistem sains
terbuka, akses
terbuka dan
inovasi terbuka
melalui platform
kerjasama bagi
rintangan inovasi

Kata Pengantar Presiden

STIE SEBAGAI PEMACU TRANSFORMASI NEGARA

Seiring dengan perubahan dunia yang semakin saling berhubung dan kompleks, cabaran baharu yang muncul telah mengurangkan keberkesanan sistem, struktur dan rangka kerja yang telah dibina untuk era terdahulu. Era pasca-normal telah mencetuskan pelbagai pengaruh yang menyebabkan ketidaktentuan yang lebih besar, dicirikan oleh kerumitan, keberantakan dan kesalingcanggahan. Inovasi yang berasaskan sains dan teknologi secara khusus, serta sistem pengetahuan secara umum, telah muncul sebagai pendorong utama landskap sosial, ekonomi dan politik yang sedang berkembang.

Struktur pemerintahan hierarki tradisional yang berasaskan kaedah perintah dan kawalan sudah tidak lagi relevan. Kejayaan akan datang daripada kolaborasi yang lebih kukuh di antara pemegang taruh, di mana setiap pihak akan mengenal pasti peranan masing-masing dalam rangkaian yang saling berkait dan sedia bekerjasama. Mengatasi cabaran nasional dengan berkesan memerlukan sistem pengetahuan bersepadu dan pendekatan seluruh negara yang mampu memanfaatkan pengetahuan dan kebijaksanaan masyarakat secara keseluruhan.

Walaupun fungsi ASM sebagai Badan Pemikir akan diteruskan, terdapat seruan mendesak untuk menjalankan peranan yang lebih berorientasikan tindakan, bagi menunjuk bagaimana nilai dapat dicipta melalui aplikasi pengetahuan baharu dengan cara terkini. Dalam memajukan agenda pembangunan negara, ASM memikul peranan sebagai Penggerak Perubahan dalam pembangunan ekosistem STIE yang mencipta nilai melalui pengintegrasian yang lancar antara R&D dengan sistem ekonomi. Laporan ini merumuskan kemajuan projek-projek dan tindakan yang utama pada tahun 2024 ketika kami memulakan perjalanan untuk menjadi sebuah badan pemikir dan pelaksana.

Presiden ASM, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc, berkongsi pandangannya semasa Mesyuarat Townhall ASM – Sesi Perbincangan bersama Felo yang pertama



Kunjungan hormat kepada Timbalan Perdana Menteri, YAB Dato' Sri Haji Fadillah Haji Yusof

Pada tahun 2024, ASM meneruskan usaha pembangunan dasar dan strateginya dengan melaksanakan kajian utama yang ditugaskan serta memberi input strategik kepada majlis nasional dan mesyuarat peringkat tertinggi. Sebanyak 11 pembentangan telah dibuat kepada majlis nasional yang memperoleh pengisian daripada pelbagai kajian strategik. Inisiatif yang paling penting ialah pembentangan kepada Jemaah Menteri yang mengetengahkan jurang serta cabaran utama dalam pembangunan ekosistem STIE negara. Ini diikuti dengan cadangan yang dibentangkan kepada Majlis Sains Negara (MSN) bagi memperkasa peranan MSN. Beberapa anjakan dasar penting telah dicadangkan dan diluluskan, termasuk penubuhan tiga entiti utama MSN yang saling melengkapi sebagai pemacu utama bertanggungjawab menyelaras dan menyusun semula kerangka tadbir urus STIE negara. MSN turut menerima pakai pendekatan berasaskan misi yang dicadangkan bagi menangani cabaran pembangunan negara secara lebih bersepadu dan selaras, menggantikan amalan semasa yang berpaksikan kepentingan sektoral, budaya kerja silo antara jabatan dan pengkhususan yang terhad. Usaha-usaha ini bertujuan menghasilkan impak transformatif terhadap masyarakat dan ekonomi dengan merombak sistem serta amalan secara menyeluruh, membentuk perubahan minda seterusnya mewujudkan kebiasaan baharu yang digerakkan oleh kepimpinan berwibawa dan tindakan kolektif semua pemegang taruh.

ASM secara konsisten telah menggesa agar Akta STI nasional diwujudkan bagi memformalkan mandat undang-undang dalam pembangunan STIE. Mengikut amalan negara-negara yang telah membangunkan ekosistem STIE yang kukuh, ASM mencadangkan agar nama akta tersebut diubah kepada Akta Pemerkasaan STI supaya lebih mudah difahami. Perubahan ini akan menjelaskan bahawa akta tersebut bertujuan untuk memudahkan cara pembangunan ekosistem STIE yang mantap, berbanding mengawal selia atau melindungi. Sebagai pelengkap kepada inisiatif pembangunan ekosistem ini, kemajuan turut dicapai dalam usaha membangunkan *Malaysia Science Endowment* (MSE) yang diterajui oleh ASM. Pada tahun 2024, enam syarikat telah menyatakan minat, di samping peningkatan libat urus dengan 30 agensi antarabangsa.

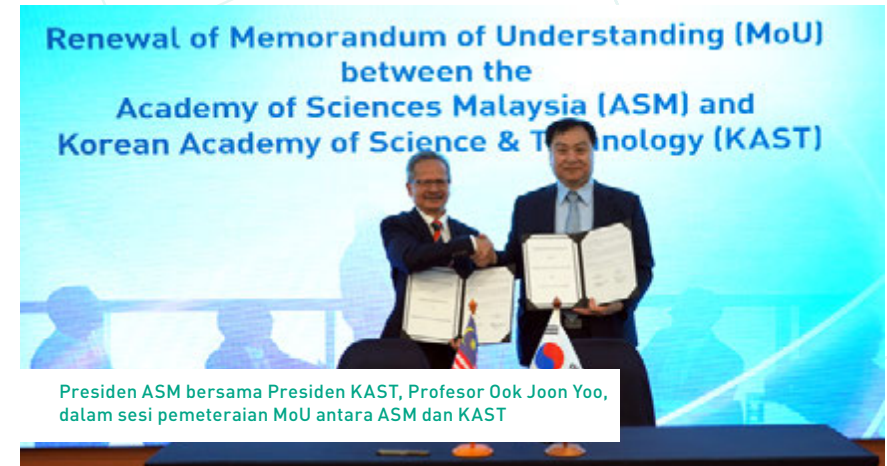
ASM sedang mempergiat usaha untuk memberikan sumbangan strategik kepada pembangunan negara melalui kerjasama dan kolaborasi. Input kritikal sedang disediakan bagi menyokong penyediaan Rancangan Malaysia Ke-13. Kajian dalam bidang reformasi pendidikan, ekonomi biru, kesihatan planet serta Pelan Hala Tuju Penyelidikan, Pembangunan, Inovasi, Pengkomersialan dan Ekonomi (RDICE) menyediakan asas analitikal bagi merumuskan cadangan dan saranan baharu ke arah pembangunan berasaskan inovasi. Dua kajian penting yang wajar diketengahkan di sini telah ditugaskan oleh Kementerian Ekonomi (KE). Kajian Reformasi Pendidikan Negara menyediakan analisis di peringkat makro terhadap sektor pendidikan Malaysia bagi menyokong reformasi menyeluruh berasaskan bukti. Ini membolehkan pelaburan strategik yang lebih teliti demi menghasilkan keputusan yang lebih baik dalam membangunkan bakat masa depan. Sementara itu, Pelan Tindakan Ekonomi Biru Malaysia menawarkan pelan menyeluruh dan bersepadu untuk membuka potensi nilai mampan sumber lautan negara bagi pembangunan jangka panjang negara.

Di peringkat negeri, ASM telah menyediakan penyelesaian pragmatik terhadap cabaran yang dihadapi serta membantu mempertingkatkan pelaksanaan di lapangan. Salah satunya ialah pelaksanaan *Wireless Bridging System* (WBS), satu inovasi penting bagi membolehkan capaian Internet kepada komuniti yang ketinggalan dan terbatas. WBS telah berjaya dilaksanakan di beberapa lokasi di seluruh negara, membolehkan warga yang sebelum ini tidak terhubung untuk mendapatkan akses. ASM turut bekerjasama dengan Kementerian Sains, Teknologi dan Inovasi (MOSTI) di bawah Program Inovasi Sosial, bersama kumpulan pakar dari Universiti Sains Malaysia (USM), Universiti Malaysia Terengganu (UMT), Universiti UCSI dan pemegang taruh utama di Langkawi, untuk melaksanakan Program Pemulihan dan Pemuliharaan Gamat Emas. Pada tahun 2024, kemajuan ketara telah dicapai melalui pelepasan awal benih Gamat Emas, dengan pelepasan susulan dirancang di tapak pemulihan terpilih. *Science Outlook* 2025, kajian perdana ASM, buat pertama kalinya memfokuskan kepada pembangunan STIE di peringkat negeri dan wilayah. Kajian ini diharapkan akan menjadi rujukan utama kepada pihak pelaksana dengan menyediakan gambaran sebenar prestasi negara dalam bidang STIE bukan sahaja di peringkat nasional, tetapi di seluruh negara secara menyeluruh.

Mengembangkan jangkauan penglibatan tempatan ke antarabangsa, ASM telah melaksanakan beberapa projek sepanjang tahun 2024. Tropical Science Foundation telah menganjurkan *International Conference on Tropical Sciences* 2024 di Kuching, Sarawak, bagi memajukan bidang sains tropika, selaras dengan kedudukan Malaysia sebagai hab penyelidikan tropika yang unik. Persidangan ini telah dihadiri oleh lebih 300 peserta dari 20 buah negara. 'Deklarasi Kuching untuk Tropika' telah dihasilkan, menegaskan keperluan mendesak untuk semua pemegang taruh supaya bekerjasama dalam melindungi kawasan tropika demi masa hadapan yang lebih lestari.



Presiden ASM mempengerusikan Dialog Polisi Pertama bertajuk *Facing a Post-Normal Era in the Tropics* sempena Persidangan Antarabangsa TropSc Kedua



Presiden ASM bersama Presiden KAST, Profesor Oon Joon Yoo, dalam sesi pemeteraian MoU antara ASM dan KAST

Di peringkat serantau, ASM telah bekerjasama dengan Jawatankuasa ASEAN mengenai Sains, Teknologi dan Inovasi (COSTI) dalam membangunkan laporan kajian '*ASEAN Ahead: ASEAN STI Ecosystem Foresight 2035 and Beyond*'. Kajian daya jangka ini menggambarkan ASEAN sebagai kuasa besar inovasi global menjelang 2035, dipacu ketahanan yang didayakan STIE, etos berteraskan nilai serta kemakmuran bersama. Selaras dengan Kepengerusian ASEAN oleh Malaysia pada tahun 2025, laporan ini membuka peluang unik untuk negara menerajui usaha memperkukuh ekosistem STIE serantau dalam kalangan negara anggota ASEAN. Melalui pendekatan berorientasikan misi ini, negara-negara ASEAN dapat memupuk visi bersama dan memperkasa kedaulatan STIE secara kolektif. Semangat kerjasama global turut diperkukuh melalui jalinan dua hala dan pelbagai hala. Memorandum Persefahaman (MoU) telah dimeterai bersama Korean Academy of Science and Technology (KAST) serta Chinese Academy of Sciences (CAS) bagi meluaskan skop keterlibatan, mempertingkatkan pertukaran ilmu dan kerjasama serta melonjakkan potensi sains dan inovasi melalui sokongan bersama.

Berikutan kejayaan awal Malaysia Open Science Alliance (MOSA) dalam mempromosi sains terbuka di negara ini, ASM telah memperluaskan konsep tersebut di peringkat serantau melalui cadangan penubuhan APEC Open Science Alliance (APECOSA). Cadangan ini telah dikemukakan pada tahun 2023, dengan tujuan menggalakkan negara-negara APEC berkongsi amalan terbaik dan pengetahuan dalam menangani cabaran serantau. Kajian landskap sedang dijalankan bagi mengenal pasti inisiatif sains terbuka dalam kalangan negara APEC dan hasil kajian ini dijadual untuk dibentangkan pada tahun 2025.

Laporan tahunan ini menonjolkan bagaimana ASM mempergiat peranannya sebagai Penggerak Perubahan dalam pembangunan STIE melalui penerapan daya jangka S&T yang teliti bagi menjangkakan masa hadapan. Ketika dunia mengalami transformasi yang bersifat revolusi, norma yang dahulunya diterima secara meluas kini semakin terhakis. Sistem manusia dalam pelbagai jenis akan diteliti semula dan diperbaharui. Secara khususnya, sistem pengetahuan termasuk sains dan teknologi serta sistem penciptaan nilai akan mengalami reformasi yang ketara. ASM memperjuangkan kepimpinan bermatlamat dalam kalangan pemegang taruh dan menggalakkan kolaborasi yang lebih erat. Tindakan kolektif dalam menangani misi negara yang dipersetujui bersama bakal memperkukuh daya tahan negara dalam menghadapi kejutan yang tidak dijangka.

Selaras dengan idea perubahan paradigma, ASM terus yakin bahawa perubahan mesti bermula dari dalam. Cara berfikir dan sikap perlu disesuaikan dengan persekitaran yang semakin berubah. Pemikiran yang tangkas dan proaktif akan membolehkan kita menerima norma baharu seterusnya membayangkan semula, mencipta semula dan mereformasi sistem yang membentuk kehidupan kita.

Saya yakin pembaca akan mengguna laporan ini sebagai panduan yang berguna untuk menghadapi dunia masa hadapan. Kami di ASM berhasrat untuk terus bekerjasama dengan semua pemegang taruh dalam membentuk dunia yang lebih selesa, harmoni dan makmur untuk diri sendiri dan seluruh insan sejagat.

Marilah bersama-sama menyumbang dalam usaha membina semula negara ke arah masa hadapan yang lebih makmur, aman dan lestari.

Akhir kata, saya ingin merakamkan setinggi-tinggi penghargaan kepada semua rakan dan penyokong kami, kerana tanpa sumbangan dan dukungan anda yang bernilai, kejayaan ini tidak mungkin dapat dicapai.



**Academician Datuk Dr Tengku
Mohd Azzman Shariffadeen FASc**



Presiden ASM bersama KPE, Puan Hazami Habib, serta Pihak Pengurusan ASM semasa Latihan Kesedaran Kendiri bersama Presiden

Dari Pejabat KPE



Pemulaan Sebuah Perjalanan

Sejak penubuhannya, ASM telah memainkan peranan penting dalam memberikan input nasihat kepada kerajaan mengenai hal-hal berkepentingan nasional, khususnya dalam bidang STIE. Perjalanan untuk merapatkan jurang antara sains dan dasar, dan dasar dengan sains, merupakan satu proses yang mencabar namun berbaloi, yang memerlukan pelbagai pengajaran, dan usaha penambahbaikan yang berterusan. Sepanjang tempoh tersebut, ASM secara konsisten telah menghasilkan pelbagai laporan dan pemantauan kami menunjukkan bahawa sekurang-kurangnya 80% daripada cadangan yang dikemukakan telah diterima pakai. Namun begitu, tidak semua cadangan ini telah dilaksanakan dengan berkesan atau diterjemahkan kepada tindakan yang nyata. Menyedari keperluan untuk meningkatkan impaknya, ASM telah menerima pakai hala tuju baharu menerusi Pelan Strategik 2021–2025, dengan matlamat untuk mendorong perubahan yang bermakna dan transformatif.

Keputusan Jemaah Menteri untuk melantik Presiden ASM sebagai Penasihat STI kepada YAB Perdana Menteri dan Negara pada tahun 2023 telah menjadi satu pencapaian penting, yang seterusnya memperkukuh mandat ASM dan memperluas jangkauannya merentasi ekosistem STIE. Peranan ASM sebagai Penggerak Perubahan yang berkesan semakin menyerlah pada tahun 2024, dengan pencapaian yang memberi impak di peringkat negeri. Pengurusan telah memainkan peranan penting dalam menyokong usaha Presiden ASM untuk berinteraksi dengan para pemegang taruh di pelbagai negeri. Hasilnya, enam negeri telah membuka ruang kerjasama dengan ASM bagi meneroka peluang baharu dan laluan ke arah impak yang lebih bermakna.

Beberapa kajian dan inisiatif utama telah menunjukkan kemajuan yang memberangsangkan. Pelan Tindakan Kesihatan Planet Negara (PTKPN), Pelan Hala Tuju RDICE serta Kertas Posisi *Blue Economy: Unlocking the Value of the Oceans*, adalah antara usaha yang berpotensi mencetuskan perubahan transformatif dalam ekosistem STI ke arah masa hadapan yang lebih baik untuk setiap rakyat Malaysia. Di samping itu, ASM telah membentangkan empat kertas laporan kepada majlis penasihat kebangsaan, tiga di mesyuarat peringkat menteri, dan satu Nota Jemaah Menteri kepada Kabinet, sekali gus mengukuhkan peranan ASM sebagai pemangkin kepada keputusan yang berimpak.

Pada tahun 2023, ASM telah diberi kepercayaan sebagai agensi pelaksana MSE, satu inisiatif strategik yang bertujuan untuk memperluas akses kepada pembiayaan alternatif bagi aktiviti berkaitan STI. Bagi tujuan berkenaan, ASM telah melaksanakan pelbagai usaha sepanjang tahun 2024, dengan memberi tumpuan kepada pembinaan kerjasama dengan pihak industri dan rakan antarabangsa menerusi mekanisme seperti geran padanan, pembiayaan rami (*crowdfunding*), wakaf dan modal teroka. Selain itu, ASM turut membangunkan idea-idea inovatif dan mekanisme ganjaran bagi menarik sumbangan industri, yang telah dikemukakan untuk pertimbangan Kementerian Kewangan (MOF) dan agensi kerajaan yang berkaitan. Matlamat kami adalah untuk memperoleh sejumlah besar rakan industri yang komited menjelang pelancaran MSE.



Kami terus memupuk kerjasama yang bermakna dengan pemegang taruh antarabangsa, sekali gus memperkukuh kehadiran kami di peringkat global. Pada tahun ini, ASM telah memeterai MoU dengan dua akademi ternama, KAST dan CAS. Perjanjian ini mengukuhkan matlamat dan komitmen untuk mempererat kerjasama demi kebaikan dan kemajuan sains. Selain itu, bengkel mengenai diagnostik dan terapeutik yang dianjurkan oleh ASM dengan kerjasama Academy of Medical Sciences UK (AMS) telah menerima penyertaan yang menggalakkan, mencerminkan minat dan penglibatan yang semakin meningkat dalam bidang penting ini.

Di peringkat negeri dan wilayah, Felo ASM menerusi ASM *Chapters* memainkan peranan utama dalam menyelaras dan menghimpunkan pakar di kawasan masing-masing untuk melaksanakan program yang memberi impak dan manfaat kepada komuniti yang mereka wakili. Dengan sokongan kukuh serta penglibatan aktif daripada para pemegang taruh tempatan, ASM *Chapters* telah berjaya melaksanakan pelbagai inisiatif bermakna dalam pembudayaan dan promosi STEM yang melibatkan pelajar, guru dan masyarakat.



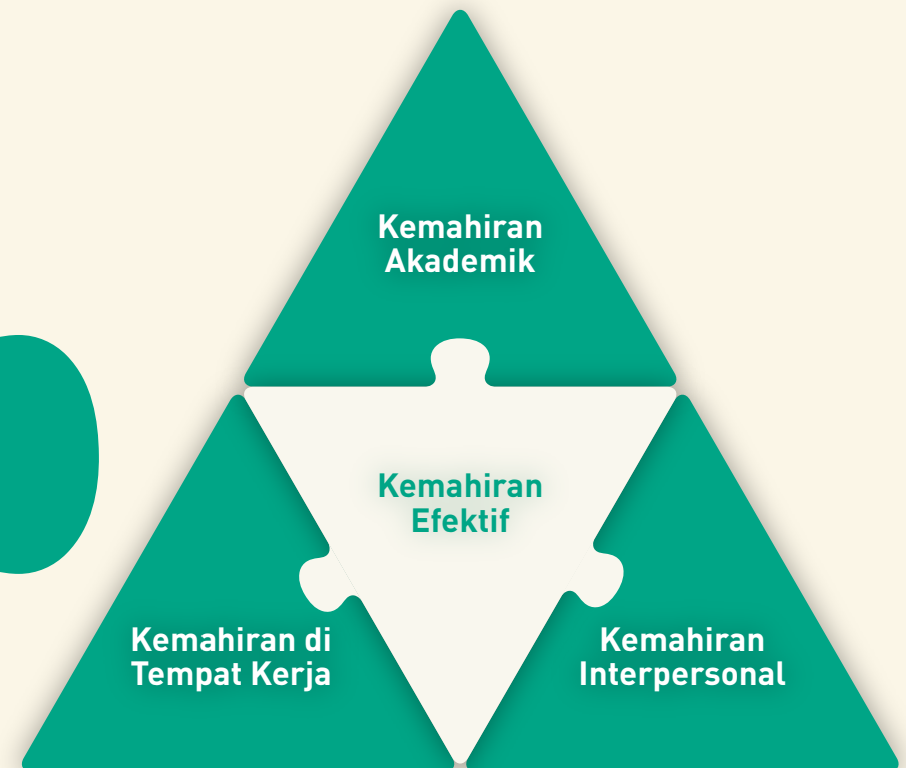
Pemudah Cara, Pelaksana

Tidak seperti badan berkanun yang lain, ASM kekal progresif melalui kerjasama antara dua kumpulan yang berbeza dengan kepentingan yang sama iaitu, Jaringan Pakar dan Pihak Pengurusan. Jaringan Pakar, menerusi jawatankuasa kerja khusus dan perbincangan mendalam, menyumbang input nasihat yang amat berharga serta pandangan. Sementara itu, Pihak Pengurusan memastikan pelaksanaan yang lancar bagi program, aktiviti dan tadbir urus ASM. Pihak Pengurusan turut menterjemah pengetahuan, teori dan idea yang dibangunkan oleh Jaringan Pakar kepada strategi yang boleh dilaksanakan serta hasil yang boleh dinilai.

Pihak Pengurusan juga menjalankan pengumpulan dan analisis data yang menyeluruh, merangkumi teladan (*hindsight*) dan daya jangka (*foresight*). Pendekatan holistik ini melengkapkan Jaringan Pakar dengan pandangan kritikal yang membolehkan mereka merumuskan cadangan yang bermaklumat, berimpak dan berpandangan jauh.

Berperanan sebagai jambatan penting antara Jaringan Pakar ASM dan pembuat dasar, Pihak Pengurusan menjalankan komunikasi yang berkesan bagi memastikan keselarasan dengan matlamat nasional semasa dan keperluan masa hadapan. Ini termasuk rundingan dan kerjasama yang meluas dengan pemegang taruh di pelbagai peringkat bagi memahami cabaran dan ekosistem semasa. Menerusi usaha ini, Pihak Pengurusan memastikan bahawa cadangan ASM adalah berimpak, praktikal dan diterima baik oleh pemegang taruh, sekali gus membuahkan pelaksanaan yang berjaya dan hasil yang bermakna.

Peningkatan Jaringan Pakar ASM, terutamanya para Felo, telah meningkatkan keupayaan ASM untuk menjalankan pelbagai kajian dan inisiatif secara serentak, sekali gus memberi sumbangan yang berimpak. Menjelang akhir tahun 2024, ASM telah bekerjasama dengan 14 kementerian, mengukuhkan kedudukannya sebagai Peneraju Pemikir negara dalam bidang STIE. Seiring dengan itu, permintaan terhadap sokongan daripada Pengurusan turut meningkat secara mendadak.



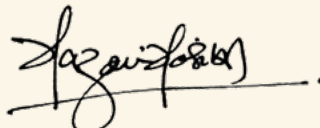
Menguruskan sebuah organisasi yang sentiasa menongkah arus, menerajui idea baharu, menetapkan trend dan bertindak sebagai pemangkin perubahan adalah tugas yang amat mencabar. Ia memerlukan pasukan pengurusan yang memiliki kemahiran luar biasa dan keupayaan untuk berinteraksi secara yakin dengan para pakar terbaik negara, serta bekerjasama rapat untuk menggerakkan agenda nasional ke hadapan. Kecemerlangan berterusan ASM dibina atas sinergi harmoni antara kepakaran akademik, praktikaliti pekerjaan, serta kemahiran interpersonal yang dinamik dalam rangka pengurusan.

Pihak Pengurusan amat menghargai pertukaran ilmu dan input Jaringan Pakar. Namun begitu, Pihak Pengurusan juga perlu mengimbangi peluang pembangunan dengan keperluan mendesak, jangkaan tinggi dan kadar kekurangan bakat yang tinggi. Ketahanan dan keyakinan bakat muda kadangkala tidak mencukupi, manakala kakitangan yang berpengalaman dan berkemahiran tinggi menanggung tanggungjawab besar untuk mengekalkan ilmu dan memacu objektif ASM. Bagi menjamin kesinambungan dan kejayaan jangka panjang, ASM perlu memberi keutamaan kepada usaha mengekalkan warga kerja yang berbakat. Dengan penuh optimisme, saya percaya tahun hadapan bakal membuka lebih banyak ruang untuk kemajuan dan pencapaian bagi ASM.

Penghargaan

Tahun 2024 telah menguji dan memberikan pelbagai pengajaran yang amat bernilai. Namun akhirnya, ASM telah berjaya menempuh tahun ini dengan ketabahan, semangat dan komitmen. Kami memperoleh pencapaian penting setiap tahun berpandukan tujuan dan falsafah.

Segala kejayaan ini dipacu dengan kepimpinan Majlis ASM, terutamanya EXCO, sokongan rakan kementerian serta sumbangan Jaringan Pakar ASM. Penglibatan mereka dalam pelbagai inisiatif ASM telah membantu kami menunaikan peranan sebagai Peneraju Pemikir STIE negara. Saya juga amat menghargai dedikasi pasukan Pengurusan ASM terhadap visi dan misi ASM, yang menjadi kunci utama kejayaan kita bersama.



Hazami Habib



KPE ASM bersama Presiden semasa Majlis Peluncuran Transformasi Sektor Air 2024

Tadbir Urus Korporat

Di ASM, kami komited untuk mengekalkan standard tadbir urus korporat yang tinggi melalui ketelusan dan akauntabiliti sambil memupuk budaya integriti dan profesionalisme. ASM berhasrat untuk menjadi sebuah organisasi yang mengintegrasikan manusia dan teknologi sebagai sebuah sistem yang bersatu dengan mengiktiraf keperluan daya tahan organisasi dalam persekitaran yang dinamik masa kini. Bahagian ini memberikan gambaran keseluruhan tentang bagaimana ASM melaksanakan mandatnya dengan cekap.

Majlis ASM

ASM ditubuhkan di bawah Akta Akademi Sains Malaysia 1994 dan ditadbir oleh Majlis ASM. Majlis bertanggungjawab menetapkan dasar dan hala tuju strategik ASM, menyelia pelaksanaan 14 fungsi utamanya, dan mengurus hal ehwal ASM. Selain itu, Majlis memastikan bahawa ASM mengekalkan kebebasan dan kredibilitinya dalam memperjuangkan isu STI yang berkepentingan nasional dan antarabangsa, serta mentadbir Kumpulan Wang ASM.

Komposisi dan Pemilihan Majlis ASM

Majlis ASM terdiri daripada Felo-felo ASM. Keahlian Majlis merangkumi Presiden, Naib Presiden, Setiausaha Agung, Bendahari Kehormat dan 12 Ahli Majlis Biasa. Presiden dilantik daripada kalangan Felo untuk tempoh tiga tahun oleh SPB Yang di-Pertuan Agong atas cadangan MOSTI. Presiden layak untuk dilantik semula bagi penggal kedua dengan syarat calon itu tidak memegang jawatan Presiden selama enam tahun berturut-turut.

Selain Presiden, ahli Majlis yang lain dicalonkan oleh Felo daripada kalangan Felo. Setiap tahun, Felo memilih ahli Majlis yang akan datang dalam Mesyuarat Agung Tahunan (AGM) ASM. Felo yang dipilih untuk jawatan Naib Presiden, Setiausaha Agung, Bendahari Kehormat dan 12 Ahli Majlis Biasa layak memegang jawatan tersebut selama dua tahun. Mereka layak untuk dicalonkan semula bagi jawatan yang sama pada akhir penggal mereka, dengan syarat individu tersebut tidak memegang jawatan yang sama selama empat tahun berturut-turut.

Setiap tahun, beberapa jawatan dalam barisan Majlis akan menjadi kosong dan ahli baharu akan dipilih untuk mengisi jawatan tersebut semasa AGM. Pertukaran antara ahli Majlis membolehkan Felo mengambil bahagian dalam tadbir urus ASM di samping memastikan kelestarian dan kesinambungan dasar ASM.

Ahli Majlis

Presiden

1. Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Naib Presiden

2. Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

Setiausaha Agung

3. Profesor ChM Dr Noorsaadah Abd Rahman FASc

Bendahari Kehormat

4. Academician Emeritus Profesor Datin Paduka Setia Dato' Dr Aini Ideris FASc

Ahli

5. Profesor Dr Ahmad Ismail FASc
6. Ir Ts Choo Kok Beng FASc
7. Datuk Fadilah Baharin FASc
8. Profesor Dato' Dr Jafri Malin Abdullah FASc
9. Profesor Dr Kurunathan Ratnavelu FASc
10. Profesor Dr Mahendhiran Sanggaran Nair FASc
11. Dr Mohamad Kamal Hj Harun FASc
12. Emeritus Profesor Dr Nik Meriam Nik Sulaiman FASc
13. Emeritus Profesor Dr Phang Siew Moi FASc
14. Profesor Dr Rofina Yasmin Othman FASc
15. Profesor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc
16. Dr Zainal Ariffin Ahmad FASc



Konflik Kepentingan

Ahli Majlis bertanggungjawab untuk mengisytiharkan sebarang penglibatan mereka secara langsung atau tidak langsung dalam mana-mana perkara yang dibentangkan kepada Majlis. Sekiranya konflik kepentingan diisytiharkan, ahli tersebut dikehendaki untuk meninggalkan mesyuarat ketika agenda tersebut dibincangkan dan tidak terlibat dalam proses membuat keputusan. Pendedahan ini serta ketiadaan ahli tersebut akan direkodkan dalam minit mesyuarat.

Peranan Presiden dan Ketua Pegawai Eksekutif (KPE)

Peranan dan tanggungjawab Presiden dan KPE adalah jelas serta berbeza. Presiden berperanan sebagai peneraju ASM yang memimpin Majlis ASM dalam merangka hala tuju, dasar, prinsip, pendirian dan aktiviti organisasi. Dalam kapasiti ini, Presiden juga mengetuai perbincangan berkenaan semua perkara yang dibentangkan kepada Majlis. Presiden, bersama-sama dengan ahli Jawatankuasa Eksekutif (EXCO), memastikan keputusan yang dibuat oleh Majlis dapat diterjemahkan kepada langkah pelaksanaan dan inisiatif eksekutif.

Berdasarkan Mesyuarat Jemaah Menteri yang diadakan pada 22 Jun 2022, Kerajaan Malaysia telah melantik Presiden ASM sebagai Penasihat STI kepada Perdana Menteri dan Negara. Majlis telah bersetuju agar ASM memberikan sokongan dan pemudahcaraan kepada Presiden dalam melaksanakan tanggungjawab sebagai Penasihat STI. Selaras dengan tanggungjawab tambahan tersebut, Majlis juga bersetuju untuk memberi imbuhan kepada Presiden. Justeru itu, Presiden diberikan honorarium bulanan bagi melaksanakan fungsi beliau sebagai Penasihat STI, manakala jawatan Presiden ASM kekal bersifat *pro bono*.

Manakala KPE merupakan pegawai pengawal utama ASM yang bertanggungjawab menerajui Pengurusan ASM dan menyelia hal ehwal pentadbiran keseluruhan. Peranan KPE termasuk merangka strategi serta menterjemahkan keputusan Majlis kepada tindakan selanjutnya berdasarkan strategi, dasar dan prosedur ASM sedia ada. Di peringkat operasi, KPE melapor kepada pengurusan tertinggi kementerian dan menghadiri mesyuarat di peringkat kementerian sebagai wakil ASM. KPE dilantik oleh Majlis dan merupakan penjawat awam yang bergaji di bawah ASM.

Mesyuarat Majlis dan Kehadiran Ahli

Mesyuarat Majlis ASM dipengerusikan oleh Presiden. Mesyuarat ini membincangkan perkara-perkara yang memerlukan kelulusan, perbincangan serta pemakluman. Laporan-laporan berikut dibentangkan dalam Mesyuarat Majlis ASM:

- (i) Minit Mesyuarat Jawatankuasa Eksekutif
- (ii) Laporan Jawatankuasa Kewangan
- (iii) Laporan Jawatankuasa Penasihat Dasar Sains, Teknologi dan Inovasi (STIPAC)
- (iv) Laporan Jawatankuasa Keahlian
- (v) Laporan Jawatankuasa Penerbitan
- (vi) Laporan Jawatankuasa Antarabangsa
- (vii) Laporan Jawatankuasa Audit
- (viii) Laporan Petunjuk Prestasi Utama (KPI) ASM dan Kementerian

Selain laporan yang dinyatakan di atas, Pengurusan ASM turut membentangkan cadangan bagi program atau kajian baharu untuk kelulusan Majlis, serta memberikan kemas kini berkenaan kemajuan program atau kajian yang sedang berjalan. Pada tahun 2024, Majlis telah bersidang sebanyak lima kali. Tarikh-tarikh mesyuarat adalah seperti berikut:

Mesyuarat ke-158	8 Februari 2024	Hibrid
Mesyuarat ke-159	4 April 2024	Hibrid
Mesyuarat Khas	23 April 2024	Hibrid
Mesyuarat ke-160	12 Ogos 2024	Hibrid
Mesyuarat ke-161	12 Disember 2024	Fizikal

Berikut adalah rekod kehadiran ahli Majlis bagi mesyuarat yang telah diadakan pada tahun 2024:

Jawatan	Nama	Penggal	Kehadiran
Presiden	Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc	Penggal Pertama: 2023 - 2026	5/5 (100%)
Naib Presiden	Profesor Dato' Ir Dr A. Bakar Jaafar FASc	Penggal Pertama: 2020 - 2022 Penggal Kedua: 2022 - 2024	3/3 (100%)
	Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc	Penggal Pertama: 2024 - 2026	2/2 (100%)
Setiausaha Agung	Profesor ChM Dr Noorsaadah Abd Rahman FASc	Penggal Pertama: 2023 - 2025	5/5 (100%)
Bendahari Kehormat	Academician Emeritus Profesor Datin Paduka Setia Dato' Dr Aini Ideris FASc	Penggal Pertama: 2021 - 2023 Penggal Pertama: 2023 - 2025	3/5 (60%)
Ahli	Profesor Dr Ahmad Ismail FASc	Penggal Pertama: 2023 - 2025	3/5 (60%)
	Ir Ts Choo Kok Beng FASc	Penggal Pertama: 2023 - 2025	2/2 (100%)
	Datuk Fadilah Baharin FASc	Penggal Pertama: 2023 - 2025	4/5 (80%)
	Profesor Dato' Dr Jafri Malin Abdullah FASc	Penggal Pertama: 2021 - 2023 Penggal Kedua: 2023 - 2025	5/5 (100%)
	Profesor Dr Kurunathan Ratnavelu FASc	Penggal Pertama: 2023 - 2025	3/5 (60%)
	Profesor Dr Mahendhiran Sanggaran Nair FASc	Penggal Pertama: 2021 - 2023 Penggal Kedua: 2023 - 2025	4/5 (80%)
	Dr Mohamad Kamal Hj Harun FASc	Penggal Pertama: 2021 - 2023 Penggal Kedua: 2023 - 2025	4/5 (80%)
	Emeritus Profesor Dr Nik Meriam Nik Sulaiman FASc	Penggal Pertama: 2024 - 2026	2/2 (100%)
	Emeritus Profesor Dr Phang Siew Moi FASc	Penggal Pertama: 2024 - 2026	1/2 (50%)
	Profesor Dr Rofina Yasmin Othman FASc	Penggal Pertama: 2023 - 2025	3/5 (60%)
	Profesor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc	Penggal Pertama: 2024 - 2026	2/2 (100%)
	Dr Zainal Ariffin Ahmad FASc	Penggal Pertama: 2024 - 2025 (dilantik oleh Majlis apabila berlaku kekosongan sementara)	2/2 (100%)
	Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc	Penggal Pertama: 2023 - 2025	3/3 (100%)
	Dato' Seri Ir Dr Zaini Ujang FASc	Penggal Pertama: 2022 - 2024	1/3 (33%)
	Profesor Dato' Dr Ahmad Ibrahim FASc	Penggal Pertama: 2020 - 2022 Penggal Kedua: 2022 - 2024	2/3 (67%)
	Profesor Dr Yvonne Lim Ai Lian FASc	Penggal Pertama: 2020 - 2022 Penggal Kedua: 2022 - 2024	3/3 (100%)
	Profesor Dato' Ir Dr Mohd Saleh Jaafar FASc	Penggal Pertama: 2022 - 2024	1/3 (33%)

Ahli Majlis tidak menerima sebarang imbuhan; namun begitu, mereka layak menerima elaun mesyuarat atas kehadiran mereka. Presiden, sebagai Pengerusi, menerima RM750 bagi setiap mesyuarat, manakala ahli lain dibayar RM500 bagi setiap mesyuarat.

Ketersediaan Maklumat

Ahli Majlis diberikan akses dalam talian kepada dokumen mesyuarat sekurang-kurangnya dua hari sebelum mesyuarat diadakan. Setiap ahli dikehendaki menelaah dokumen dan agenda yang disediakan sebelum mesyuarat untuk perbincangan yang berkesan. Dokumen Mesyuarat Majlis mengandungi sekurang-kurangnya perkara-perkara berikut:

- Minit mesyuarat yang lalu;
- Laporan Jawatankuasa yang memerlukan kelulusan Majlis; dan
- Laporan program dan kajian ASM.

Mesyuarat Agung Tahunan

Mesyuarat Agung Tahunan (AGM) ke-29 telah diadakan secara hibrid pada 22 Jun 2024 dan dihadiri oleh 208 Felo. Mesyuarat tersebut telah mengesahkan minit AGM ke-28 dan meluluskan Penyata Kewangan bagi tahun 2023 serta Laporan Tahunan ASM 2023 untuk dibentangkan di Parlimen. Laporan Tahunan 2023 telah diluluskan oleh Dewan Rakyat pada 12 Disember 2024 dan Dewan Negara pada 16 Disember 2024. Di samping itu, terdapat 31 Felo baharu yang telah dilantik pada AGM ke-29 bagi tahun 2024, menjadikan 509 orang jumlah keseluruhan Felo.

Felo Baharu (mengikut susunan abjad)

Sains Kimia

Profesor Dr Habibah A Wahab FASc

Sains Kejuruteraan

Profesor Ir Dr Chai Siang Piao FASc

Profesor Dr Hazizan Md Akil FASc

Profesor Ir Dr Hazlie Mokhlis FASc

Profesor Ir Dr Kaharudin Dimyati FASc

Profesor Ir Dr Khairul Salleh Mohamed Sahari FASc

Profesor Ir Ts Dr Mohd Rizal Arshad FASc

Ir Ts Dr Nordin Ramli FASc

Profesor Dato' Ir Ts Dr Othman A Karim FASc

Profesor Ir Ts Dr Sharifah Rafidah Wan Alwi FASc

Profesor Dr Wong Shaw Voon FASc

Teknologi Maklumat dan Sains Komputer

Profesor Ts Dr Norita Md Norwawi FASc

Profesor Ir Dr Sim Kok Swee FASc

Matematik, Fizik dan Sains Bumi

Profesor Dr Mohd Rafie Johan FASc

Profesor Ts Dr Muhammad Hisyam Lee FASc

Profesor Dr Wan Haliza Abd Majid FASc

Sains Perubatan dan Kesihatan

Profesor Dr Nortina Shahrizaila FASc

Profesor Dr Poh Bee Koon FASc

Profesor Dr Tilakavati Karupaiah FASc

Profesor Dr Woo Yin Ling FASc

Pembangunan Sains & Teknologi dan Industri

Encik Chan Pak Kuen FASc

Profesor Ir Ts Dr Khalina Abdan FASc

Dato' Ng Tong Se FASc

Ir Dr Selamat Aliman FASc

Dr Supramaniam Shanmugam FASc

Sains Sosial dan Kemanusiaan

Profesor Dr Azmawani Abd Rahman FASc

Emeritus Profesor Dato' Dr Noraini Idris FASc

Profesor Kanan Dr P'ng Tean Hwa FASc

Profesor Ts Dr Shahrina Md Nordin ACM FASc

Profesor Dr Stefanie Shamila Pillai FASc

Dr Sumit Mandal FASc

Pada AGM ke-29, terdapat lima kekosongan termasuk satu jawatan Naib Presiden dan empat jawatan ahli Majlis. Felo berikut telah dipilih sebagai ahli Majlis bagi penggal 2024–2026:

1. Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc sebagai Naib Presiden
2. Ir Ts Choo Kok Beng FASc sebagai ahli;
3. Emeritus Profesor Dr Nik Meriam Nik Sulaiman FASc sebagai ahli;
4. Emeritus Profesor Dr Phang Siew Moi FASc sebagai ahli; dan
5. Professor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc sebagai ahli

Jawatankuasa ASM

Majlis ASM menubuhkan pelbagai jawatankuasa dan mendelegasikan tanggungjawabnya kepada jawatankuasa-jawatankuasa ini bagi memastikan kelancaran operasi ASM. Oleh itu, Majlis mempunyai kuasa untuk menubuhkan jawatankuasa dan melantik pengerusinya. Majlis juga menyemak prestasi jawatankuasa-jawatankuasa ini secara berkala dan menamatkannya setelah tugas selesai dilaksanakan.

Bagi menyokong program dan kajian yang dijalankan, Majlis turut menubuhkan jawatankuasa kerja, badan bertindak dan *Special Interest Group* (SIG). Jawatankuasa ini lazimnya terdiri daripada ahli Jaringan Pakar ASM, khususnya Felo ASM dan pakar luar. Pada tahun 2024, ASM telah menubuhkan 47 jawatankuasa dan 29 pasukan petugas, serta menamatkan 8 jawatankuasa.

Jawatankuasa Eksekutif

Jawatankuasa Eksekutif ASM (EXCO) bertanggungjawab memantau dan menyelia urusan ASM serta menyokong pelaksanaan fungsi ASM. EXCO dirujuk oleh pihak Pengurusan ASM untuk mendapatkan kelulusan segera dan nasihat berkenaan pengurusan operasi harian. Jawatankuasa ini meneliti dan menyemak cadangan program serta draf dasar ASM sebelum dibentangkan kepada Majlis ASM untuk kelulusan.

EXCO, yang terdiri daripada Presiden, Naib Presiden, Setiausaha Agung dan Bendahari Kehormat, bersidang sekurang-kurangnya empat kali setahun dan dipengerusikan oleh Presiden. EXCO ASM telah mengadakan lima mesyuarat pada tahun 2024:

Mesyuarat EXCO ke-81	18 Januari 2024	Fizikal
Mesyuarat EXCO ke-82	21 Mac 2024	Hibrid
Mesyuarat EXCO ke-83	23 Mei 2024	Fizikal
Mesyuarat Khas EXCO	2 Julai 2024	Dalam Talian
Mesyuarat EXCO ke-84	15 Julai 2024	Fizikal

Jawatankuasa Kewangan

Jawatankuasa Kewangan bertanggungjawab terhadap perancangan, pelaksanaan dan pemantauan prosedur, sistem dan pelaporan kewangan berkaitan pengurusan kewangan ASM.

Fungsi Jawatankuasa Kewangan merangkumi:

- Menyusun dan mengawal kewangan ASM;
- Meneliti dan mengesahkan anggaran belanjawan tahunan ASM untuk mendapatkan kelulusan Majlis;
- Menyemak dan mengesahkan Penyata Kewangan Tahunan ASM untuk kelulusan Majlis;
- Memberi nasihat berkaitan pelaburan;
- Menilai laporan prestasi pelaburan dana ASM;
- Meluluskan dasar berkaitan kewangan dan akaun serta mengesyorkan penerimaan pekeliling kerajaan sekiranya relevan kepada ASM; dan
- Meluluskan pelupusan aset ASM dan penghapusan hutang.

Jawatankuasa ini dipengerusikan oleh Bendahari Kehormat dan dianggotai oleh sekurang-kurangnya enam orang ahli Felo. Jawatankuasa ini bersidang sekurang-kurangnya enam kali setahun dan telah mengadakan lapan mesyuarat pada tahun 2024.

Jawatankuasa Audit

Jawatankuasa Audit ditubuhkan bagi menambah baik kawalan dalaman dan mengenal pasti kelemahan dalam pengurusan serta tadbir urus ASM. Pengerusi Jawatankuasa Audit dilantik oleh Majlis ASM. Jawatankuasa ini dianggotai oleh empat ahli dan bersidang sekurang-kurangnya empat kali setahun.

Jawatankuasa ini bertanggungjawab menetapkan aktiviti audit tahunan yang merangkumi piagam audit serta menjalankan kajian terhadap kapasiti dan keberkesanan kawalan dalaman ASM. Sebarang penyelewengan yang dikenal pasti semasa pemantauan akan segera dilaporkan kepada Majlis ASM untuk tindakan sewajarnya. Walau bagaimanapun, operasi jawatankuasa ini, termasuk mesyuarat yang dijadualkan, digantung buat sementara waktu sehingga kekosongan jawatan juruaudit dalaman diisi.

Jawatankuasa Keahlian

Jawatankuasa Keahlian dipengerusikan oleh Naib Presiden dan dianggotai oleh 18 orang ahli, termasuk Setiausaha Agung serta pengerusi kumpulan disiplin. Jawatankuasa ini bertanggungjawab menjaga kualiti keahlian ASM, selain mencadangkan dasar, prosedur dan strategi untuk mengekalkan keseimbangan kepakaran yang sesuai dalam kalangan ahli bagi menyokong keperluan ASM. Jawatankuasa ini juga menyelia proses pemilihan Felo baharu dan pelantikan *Associates* serta mencadangkan calon yang disenarai pendek kepada Majlis. Selain itu, ia turut menguruskan hal-hal berkaitan urusan keahlian. Jawatankuasa ini bersidang sekurang-kurangnya dua kali setahun dan telah mengadakan tiga mesyuarat pada tahun 2024.

Jawatankuasa Penasihat Dasar Sains, Teknologi dan Inovasi

Jawatankuasa Penasihat Dasar Sains, Teknologi dan Inovasi (STIPAC) menyelaraskan, menyatukan dan menilai cadangan kajian atau laporan yang disediakan oleh jawatankuasa kajian. Sebagai jawatankuasa pemantau, STIPAC memastikan semua syor yang dikemukakan oleh ASM menerusi pelbagai laporan, semakan dan cadangan kajian adalah sejajar dengan kepentingan negara. Semua kertas cadangan atau laporan kajian perlu mendapat kelulusan STIPAC sebelum diserahkan kepada kementerian berkaitan.

Mesyuarat STIPAC yang dipengerusikan oleh Presiden diadakan sekurang-kurangnya empat kali setahun. Pada tahun 2024, STIPAC telah bersidang sebanyak tujuh kali. Jawatankuasa ini mempunyai 29 orang ahli, termasuk pengerusi atau wakil daripada lapan Kumpulan Disiplin serta beberapa jawatankuasa lain yang strategik dan relevan.

Jawatankuasa Penerbitan

Jawatankuasa Penerbitan, yang dipengerusikan oleh Setiausaha Agung, menyelia pengurusan penerbitan ASM, termasuk buku, buku saintifik, modul rujukan, biografi, jurnal dan kandungan digital seperti e-estidotmy. Jawatankuasa ini disokong oleh Ketua Editor ASM *Science Journal*, Ketua Editor e-estidotmy, serta Pengerusi Ganti Kumpulan Disiplin sebagai ahli.

Jawatankuasa ini bertanggungjawab menggubal dasar penerbitan dan menyelia aspek pengurusan serta rancangan penerbitan tahunan. Ia turut menumpukan perhatian kepada jualan, pengedaran dan pemasaran penerbitan ASM. Jawatankuasa ini bersidang sekurang-kurangnya dua kali setahun dan telah mengadakan satu mesyuarat pada tahun 2024.

Jaringan Pakar ASM

ASM memanfaatkan kepakaran dalam jaringan pakar bagi melaksanakan peranan dan fungsinya. Penganugerahan Felo dan pengiktirafan penerima *Top Research Scientists Malaysia* (TRSM) bagi tahun 2024 akan dilaksanakan pada tahun 2025 untuk menganugerahkan 31 Felo baharu dan memberi pengiktirafan kepada 25 saintis penyelidik sebagai penerima TRSM 2024.

Sehubungan itu, menjelang akhir tahun, ASM mempunyai seramai 1,024 orang pakar yang terdiri daripada 505 Felo, 178 penerima TRSM, 299 ahli *Young Scientists Network* (YSN-ASM), 30 *Associates* dan 12 Penerima Anugerah Sains Mahathir.

Warga ASM

Pengurusan ASM diketuai oleh KPE dan disokong oleh tiga Ketua Pegawai yang bertanggungjawab menyelaraskan, memantau, merancang, melaksanakan dan mengurus operasi ASM. Struktur pengurusan terdiri daripada kumpulan Pengurusan Tertinggi (1%), Kumpulan Pengurusan dan Profesional (70%) dan Kumpulan Sokongan (29%). Pasukan pengurusan terdiri daripada penjawat awam yang dilantik dan dibayar gaji oleh ASM.

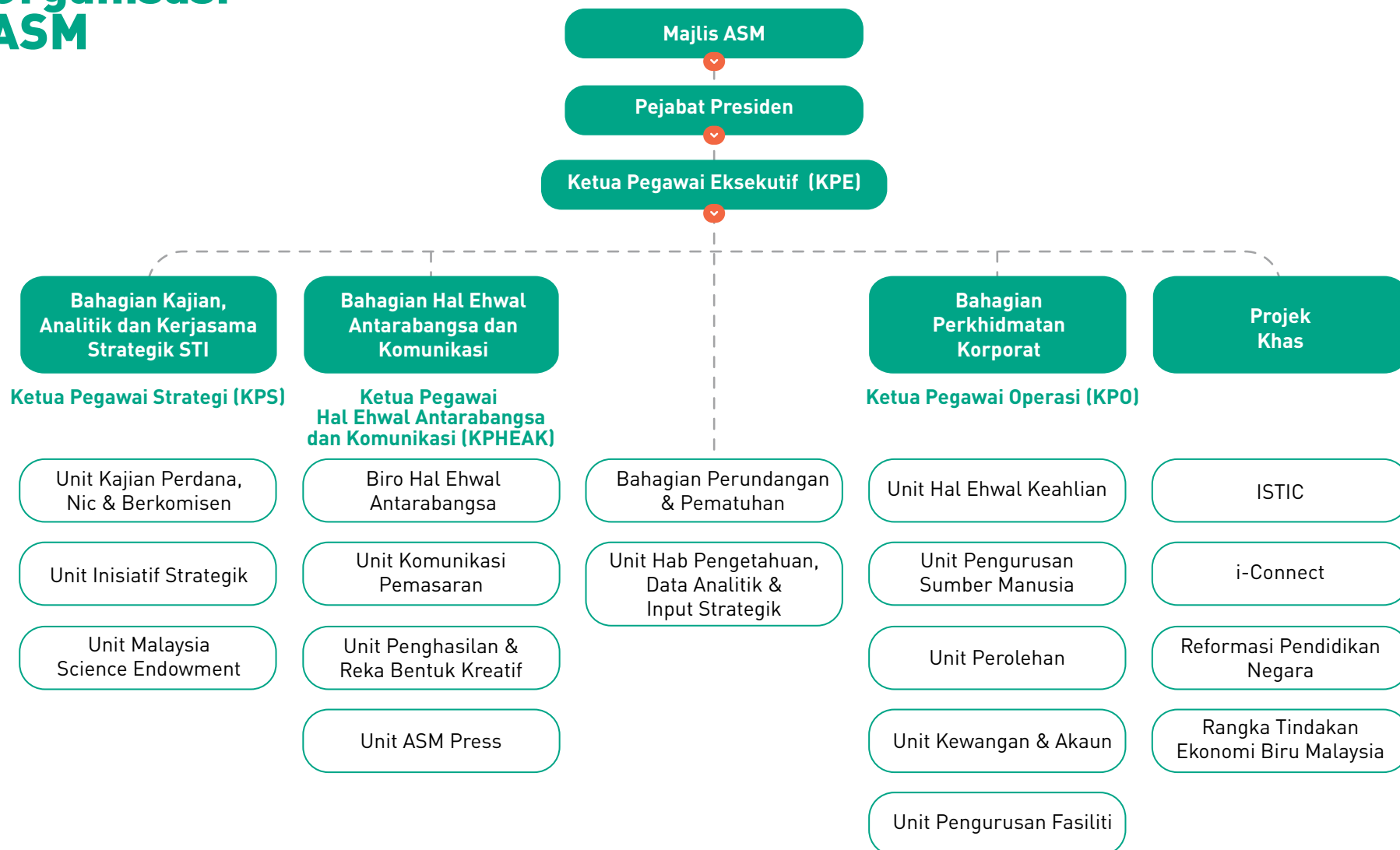
Sebanyak 9% daripada kakitangan ASM adalah lantikan tetap manakala 91% adalah di bawah skim *Contract of Services* (CoS). Seramai 39 Juruanalisis, 26 Eksekutif dan 29 kakitangan sokongan melaksanakan kajian dan program yang dirancang serta mengurus pentadbiran dan kewangan ASM.

Bahagian Kajian, Analitik dan Kerjasama Strategik STI ini diterajui oleh Ketua Pegawai Strategi (KPS) dan bertanggungjawab melaksanakan kajian strategik, termasuk yang ditugaskan oleh rakan strategik, serta melaksanakan inisiatif dan projek perintis dalam bidang-bidang khusus. Bahagian ini juga menjalankan aktiviti daya jangka (*foresight*), analisis data dan penyediaan ulasan berkaitan STIE.

Bahagian Hal Ehwal Antarabangsa dan Komunikasi diterajui oleh Ketua Pegawai Hal Ehwal Antarabangsa dan Komunikasi (KPHEAK), bahagian ini bertanggungjawab mengurus hubungan dan program antarabangsa serta menyampaikan hasil kerja ASM kepada khalayak umum. Bahagian ini juga menyelia komunikasi korporat ASM dengan pihak berkepentingan luar.

Bahagian Perkhidmatan Korporat diterajui oleh Ketua Pegawai Operasi (KPO) dan memainkan peranan penting dalam menyokong semua bahagian dan unit dalam melaksanakan aktiviti mereka. Ia bertanggungjawab terhadap pengurusan pentadbiran harian, operasi dan penambahbaikan proses serta tadbir urus. Bahagian ini merangkumi urusan pentadbiran, kewangan, perolehan, aset dan fasiliti, sumber manusia, serta hal ehwal keahlian dalam ASM.

Struktur Organisasi ASM



MEMPERKASA ILMU, MENGUKUH KERJASAMA & MENYEMARAK EKOSISTEM STIE





ASM: Merintis Kerjasama dengan Pemain Tempatan

Memperkukuh Penglibatan Serantau ke arah Kejayaan Bersama

Sejak 2023, ASM giat berkerjasama dengan 6 negeri melalui lawatan-lawatan rasmi bagi memperkukuh kerjasama serantau dan menangani isu-isu tempatan, sekali gus memperkasa kedudukannya sebagai Peneraju Pemikir dan Penggerak Perubahan dalam STIE. Melalui penglibatan ini, ASM telah mewujudkan saluran komunikasi langsung bersama pemegang taruh dengan memberikan pandangan mengenai keperluan mereka, cabaran dan peluang yang wujud. Penglibatan ini juga menggalakkan peranan aktif dan sumbangan Jaringan Pakar ASM di peringkat negeri dan wilayah melalui ASM Chapters.

Lawatan ini menekankan betapa pentingnya untuk mendengar mereka yang bekerja di lapangan dengan lebih teliti serta menyesuaikan penyelesaiannya mengikut keperluan tempatan. Ekosistem inovasi yang mampan harus berkembang secara organik oleh pemain tempatan yang bekerjasama secara sukarela dalam membina rangkaian kolaboratif bersama. Kemajuan hanya boleh dicapai dengan mengenal pasti pemegang taruh yang tepat, yang bersedia dan berkomitmen untuk mencapai misi bersama. Ini memerlukan saluran komunikasi yang berkesan dan pemupukan perkongsian strategik bagi tindakan bersama.

Sebagai Penasihat STI kepada Perdana Menteri dan Negara, Presiden ASM telah mengadakan lawatan ke Kedah, Pulau Pinang dan Kelantan pada tahun 2024. Lawatan ini telah memberikan ASM pandangan bernilai mengenai kekuatan, peluang yang semakin berkembang dan cabaran utama di setiap negeri.

Ringkasan keseluruhan potensi kolaborasi bersama negeri-negeri daripada lawatan ini.

KEDAH

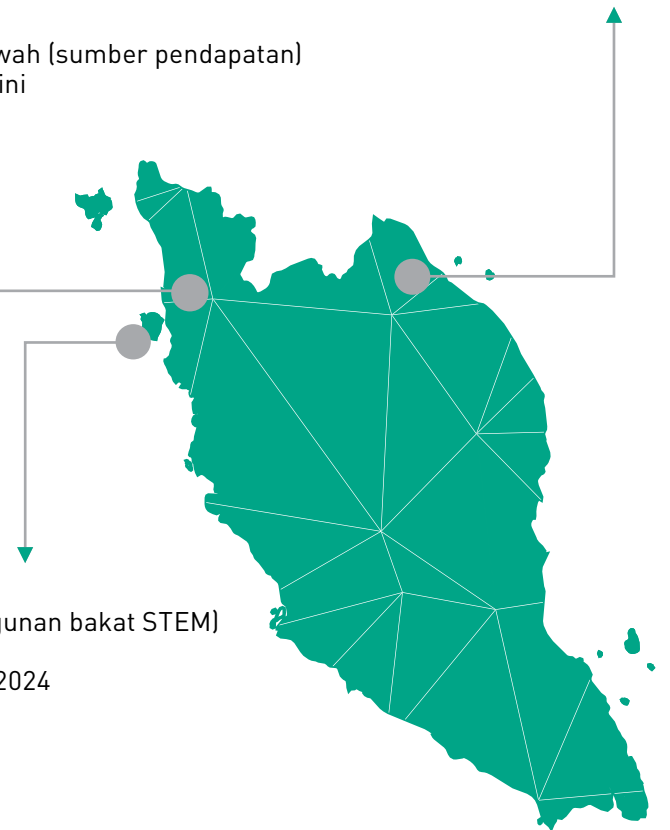
- Ekonomi Biru
- Inovasi sosial (gamat, tiram & ketam)
- Pengetahuan endogen – akuakultur, kelautan & iklim, serta tujuan perubatan tumbuhan/gamat
- Pemuliharaan ekopelancongan & biodiversiti
- Kesihatan Planet
- Baja tanaman padi
- Projek sosial inovasi untuk pesawah (sumber pendapatan)
- Bakat STEM & pengetahuan terkini
- Wireless Bridging System
- Ekosistem Inovasi
- Isu air – banjir & kemarau

KELANTAN

- Pusat Sains & Teknologi Kelantan
- Isu air
- Jenis-jenis benih tahan kemarau dan banjir serta baja mikronutrien untuk padi

PULAU PINANG

- Inovasi sosial (tiram & vanila)
- MSE (Semikonduktor & pembangunan bakat STEM)
- Ekonomi Biru
- Jerayawara Wilayah Utara ASM 2024





Lawatan rasmi Presiden ASM ke Kedah, Pulau Pinang dan Kelantan

Menteri Besar Kedah:

Membincangkan strategi pembangunan negeri dan wilayah berkeutamaan tinggi bersama YAB Dato' Seri Haji Muhammad Sanusi Md Nor.

Ketua Menteri Pulau Pinang:

Membincangkan hala tuju masa hadapan industri E&E bersama YAB Chow Kon Yeow untuk mendapatkan pandangan beliau serta potensi sokongan negeri terhadap inisiatif yang sedang dipertimbangkan.

Lembaga Kemajuan Pertanian Muda (MADA):

Meneroka peranan MADA dalam memajukan sektor pertanian dan impaknya terhadap ekonomi tempatan.

Majlis Perasmian Loji AT&S:

Menekankan kepentingan yang semakin meningkat terhadap teknologi pembungkusan lanjutan dan substrat dalam meningkatkan daya saing global industri E&E.

KAIRO Agriculture dan SeaHarvest Aquamarine:

Tumpuan diberikan kepada peluang inovatif dalam sektor pertanian dan akuakultur untuk inovasi sosial, khususnya dalam penanaman vanila dan penternakan tiram, serta potensinya dalam merangsang pertumbuhan ekonomi.

Pusat Pembangunan Kemahiran Pulau Pinang (PSDC) dan Pusat Kajian Marin dan Pesisir Pantai (CEMACS):

Membincangkan pembangunan bakat dan tenaga kerja serta penyelidikan dalam bidang marin dan pesisir pantai.

Universiti Sains Malaysia (USM):

Berinteraksi dengan Naib Canselor Profesor Dato' Seri Ir Dr Abdul Rahman Mohamed FASc dan pasukannya untuk meneroka potensi memperkukuh kerjasama penyelidikan dan pembangunan (R&D) antara universiti dan industri dalam sektor E&E Malaysia.

Inkubator CREST untuk Syarikat Pemula:

Mendapatkan pemahaman tentang syarikat-syarikat peringkat awal yang menangani keperluan industri E&E negara, sekali gus menyokong pertumbuhan ekosistem penyelidikan, pembangunan dan pengkomersialan (R&D&C).

Digital Penang:

Tumpuan diberikan kepada merebut peluang dalam ekonomi digital dan memupuk masyarakat celik digital.

Pihak Berkuasa Pelaksanaan Koridor Utara (NCIA):

Memperoleh pandangan tentang strategi badan berkanun tersebut dalam memajukan pembangunan sosioekonomi di Wilayah Ekonomi Koridor Utara (NCER).

Lembaga Kemajuan Pertanian Kemubu (KADA):

Meneliti isu kekurangan air yang menjejaskan penanaman padi di Kedah.

Universiti Malaysia Kelantan (UMK):

Berinteraksi dengan universiti yang berteraskan pendidikan keusahawanan dan pembangunan perusahaan.

EXCO Pendidikan, Pengajian Tinggi, Teknologi Hijau, Digital dan Inovasi Kelantan:

Membincangkan kemajuan dalam bidang pendidikan dan teknologi bersama YB Ustaz Wan Roslan Wan Hamat. Usaha negeri untuk menubuhkan Pusat Sains dan Teknologi di Kelantan telah disusuli dengan kerjasama bersama Yayasan Inovasi Malaysia untuk menubuhkan *Maker Space* di Kota Bharu.

Menteri Besar Kelantan:

Membincangkan isu air dan pertanian bersama YAB Dato' Panglima Perang Ustaz Dato' Haji Mohd Nassuruddin Haji Daud. ASM telah mencadangkan pengenalan pendidikan sains di sekolah Tahfiz melalui metodologi baharu seperti IBSE, yang telah diterima baik.

Balai Cerap Kelantan di Pantai Mek Mas:

Memperoleh pemahaman yang lebih mendalam mengenai projek ini dan bertukar idea mengenai peranannya dalam kajian astronomi dan aktiviti ekopelancongan.

Jeram Mengaji Agro Resort:

Meneroka potensinya dalam bidang ekopelancongan dan edupelancongan serta pendidikan STEM di lapangan.

Pembentangan di Majlis Tertinggi Negara

Pembentangan Pelan Hala Tuju Penyelidikan, Pembangunan, Inovasi, Pengkomersialan dan Ekonomi (RDICE) kepada Majlis Sains Negara

14 Mei 2024

Majlis Sains Negara (MSN) telah ditubuhkan secara rasmi pada 22 September 2015 selepas mendapat kelulusan Jemaah Menteri Malaysia. Sebagai badan pembuat keputusan tertinggi negara dalam bidang STI, MSN dipertanggungjawabkan untuk memimpin perumusan, penyelarasan dan pemantauan dasar STI negara.

Pelan Hala Tuju RDICE telah dibentangkan kepada MSN yang dipengerusikan oleh Timbalan Perdana Menteri, YAB Dato' Sri Fadillah Yusof pada 14 Mei 2024.

Pelan ini telah diterima pakai sebagai pelan asas oleh Kementerian Ekonomi (KE) bagi pelaksanaan Pelan Tindakan RDICE Kebangsaan 2025–2030 untuk menarik pelabur dan memperkukuh pembangunan teknologi, produk dan perkhidmatan tempatan. Pelan tindakan ini bertujuan untuk menyatukan serta memperluas lagi ekosistem RDICE Malaysia, dengan menyelaraskan inisiatif inovasi bersama keutamaan ekonomi negara.

Pembentangan ASM kepada Majlis Sains Negara mengenai Pemerkasaan MSN

4 November 2024

Bagi mengukuhkan lagi mandat MSN dan merapatkan jurang dalam pelaksanaan RDICE, ASM telah membentangkan kertas kerja bertajuk “Pemerkasaan Majlis Sains Negara (MSN) untuk Meneraju dan Memantau Pengukuhan Ekosistem Sains Negara”.

Antara cadangan utama dalam pembentangan ini adalah penubuhan Jawatankuasa Koordinasi dan Pemantauan Sains Negara (JKPSN) yang dipengerusikan oleh Ketua Setiausaha Negara, Panel Penasihat MSN dan Sekretariat MSN yang tetap dan profesional.

Mesyuarat Majlis Tindakan Ekonomi Negara (MTEN)

5 Disember 2024

Majlis Tindakan Ekonomi Negara (MTEN) merupakan sebuah majlis penasihat ekonomi kepada Kerajaan yang ditubuhkan pada 7 Januari 1998. MTEN berperanan sebagai peneraju dalam pelaksanaan perancangan ekonomi secara menyeluruh serta pemantauan ekonomi negara, dengan penekanan kepada keputusan rentas kementerian dan agensi bagi menyelesaikan isu-isu berstruktur.

Berdasarkan keputusan MSN pada Mei 2024 mengenai hala tuju Pelan Hala Tuju RDICE, ASM bersama MOSTI dan KE telah menyediakan satu kertas kerja mengenai RDICE. Pelan Tindakan RDICE merupakan lanjutan kepada Pelan Hala Tuju RDICE yang dibangunkan oleh ASM dan menekankan kepentingan inovasi dan pengkomersialan sebagai pemacu utama kepada pertumbuhan sosioekonomi serta keperluan meningkatkan penglibatan sektor swasta melalui tarikan pelabur yang relevan.

Pelan Tindakan ini menggabungkan sebahagian besar analisis daripada Pelan Hala Tuju RDICE dengan matlamat untuk mengoptimumkan penggunaan sumber di seluruh negara dan memperkukuh aktiviti R&D dan pengkomersialan ke arah menjadikan Malaysia hab R&D global pilihan dengan ekosistem RDICE yang kukuh.

MTEN yang dipengerusikan oleh YAB Perdana Menteri telah secara prinsip bersetuju dengan Pelan Tindakan RDICE dan telah meminta agar strategi-strategi yang dicadangkan dimurnikan sebelum pelancaran rasmi dokumen tersebut.



Mesyuarat Jemaah Menteri

2 Oktober 2024

Susulan permintaan oleh YAB Perdana Menteri, Presiden ASM yang juga merupakan Penasihat STI kepada Perdana Menteri dan Negara telah membentangkan kepada Jemaah Menteri mengenai jurang dan cabaran dalam ekosistem STIE bagi memberikan penjelasan dan panduan kepada anggota Kabinet. Nota Jemaah Menteri bertajuk “Status, Cabaran dan Jurang Semasa dalam Transformasi Ekosistem Sains, Teknologi, Inovasi dan Ekonomi Negara” telah disediakan dan dibentangkan.

Melalui pembentangan ini, ASM turut mencadangkan langkah-langkah strategik untuk mentransformasikan ekosistem STIE negara agar dapat menyokong pembangunan ekonomi, sosial dan alam sekitar secara seimbang.

Susulan pembentangan ini, Presiden telah membentangkan satu kertas kerja kepada MSN pada 4 November 2024. Kertas tersebut menumpukan kepada struktur tadbir urus yang dicadangkan serta input strategik bagi memperkukuh peranan MSN dalam memastikan ekosistem STIE yang berdaya tahan dan berkesan.

Mesyuarat Jawatankuasa Pemandu Bakat STI Negara

23 Oktober 2024

ASM telah membentangkan kertas kerja bertajuk “Pembangunan Bakat: Pegawai Pemindahan Teknologi Profesional (TTP) dalam Melengkapkan Ekosistem Inovasi Negara” kepada ahli Mesyuarat Jawatankuasa Pemandu Bakat STI Negara yang dipengerusikan oleh YB Menteri MOSTI.

Penemuan dan syor yang digariskan dalam Pelan Hala Tuju RDICE yang dibangunkan oleh ASM untuk MOSTI memberi penekanan kepada keperluan mewujudkan pegawai pemindahan teknologi (TTO)/pegawai pemindahan teknologi profesional (TTP).

Satu mesyuarat susulan akan dianjurkan dengan melibatkan Jabatan Perkhidmatan Awam (JPA), ASM, Kementerian Pendidikan Tinggi (KPT) dan Malaysian Research Accelerator for Technology & Innovation (MRANTI) untuk menginstitusikan peranan dan pengoperasian TTP di Malaysia serta pelaksanaan cadangan tersebut.

Model Perniagaan Pembangunan Industri Unsur Nadir Bumi Tanah Liat Serapan-Ion (IAC-REE) di Malaysia

Malaysia merupakan pemain utama dalam industri pemprosesan unsur nadir bumi (REE) di peringkat global, menyumbang kira-kira 11% daripada bekalan dunia dan menunjukkan potensi yang kukuh. Malaysia juga merupakan pembekal utama REE terasing melalui Loji Bahan Termaju Lynas (LAMP) kepada negara-negara seperti Jepun, Vietnam dan Thailand yang menghasilkan magnet kekal serta produk nilai tambah lain.

Selaras dengan peranan strategik ini, ASM telah merangka dan membentangkan Model Perniagaan bagi Pembangunan Industri Unsur Nadir Bumi Malaysia, kini dikenali sebagai Model Perniagaan bagi Pembangunan Industri Unsur Nadir Bumi Tanah Liat Serapan-Ion (IAC-REE) Malaysia, yang diamanahkan oleh Kementerian Sumber Asli dan Kelestarian Alam (NRES).

ASM telah menyertai tiga mesyuarat utama tahun ini untuk membentangkan landskap semasa, peluang dan cabaran industri REE Malaysia. Mesyuarat ini turut dihadiri oleh Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc, Dato' Sia Hok Kiang FASc, Encik Loganathan Ponnambalan FASc, Emeritus Profesor Emeritus Dr Nik Meriam Nik Sulaiman FASc dan Academician Datuk Fateh Chand Pars Ram FASc.

Mesyuarat Peringkat Tinggi Pelbagai Kementerian anjuran NRES 26 Mac 2024

Sesi ini menghimpunkan Menteri NRES, YB Tuan Nik Nazmi Nik Ahmad; Menteri Pelaburan, Perdagangan dan Industri (MITI), YB Senator Tengku Datuk Seri Utama Zafrul Tengku Abdul Aziz; Menteri KE, YB Dato Seri Mohd Rafizi Ramli; dan Menteri MOSTI, YB Tuan Chang Lih Kang untuk meneliti Model Perniagaan bagi Pembangunan Industri IAC-REE Malaysia yang dirancang oleh

ASM seperti yang dimandatkan oleh NRES. Mesyuarat menekankan keperluan struktur insentif yang jelas dan terkoordinasi bagi meningkatkan keyakinan industri, memandangkan tanggungjawab pengurusan sektor ini dikongsi antara kerajaan persekutuan dan negeri. Ia turut menegaskan kepentingan kerangka perundangan dan kawal selia yang kukuh untuk membimbing pertumbuhan masa hadapan dan melindungi kepentingan negara. Dasar proaktif juga dilihat penting bagi mengawal eksport merentasi rantaian nilai dan mengelakkan eksploitasi sumber secara tidak terkawal. Salah satu hasil penting mesyuarat ini ialah keputusan untuk mengemukakan kertas perbincangan kepada MTEN bagi memperincikan model perniagaan, rangka kawal selia dan strategi pelaksanaan.

Jawatankuasa Pilihan Khas Parlimen bagi Alam Sekitar, Sains dan Perladangan 26 Jun 2024

Sesi ini dipengerusikan oleh YB Datuk Haji Ahmad Mohamed @ Hashim, Ahli Parlimen Kuala Terengganu, dan dihadiri oleh enam Ahli Parlimen lain. Jawatankuasa dimaklumkan bahawa Malaysia mempunyai potensi besar untuk menjana pulangan ekonomi dan kelebihan strategik yang ketara. Malaysia dianggarkan mempunyai 16.1 juta tan metrik sumber unsur nadir bumi jenis tanah liat serapan-ion, dengan potensi nilai ekonomi melebihi RM809.6 bilion.

Mesyuarat Menteri dan EXCO Negeri Bertanggungjawab ke atas STI (MEXCO-STI) 23 September 2024

ASM membentangkan kertas kerja bertajuk "Ketersediaan Teknologi, Kepakaran dan Model Perniagaan bagi Industri Unsur Nadir Bumi Bukan Radioaktif (NR-REE/IAC-REE) di Malaysia" dalam mesyuarat yang dipengerusikan oleh Menteri

MOSTI. Pembentangan tersebut bertujuan untuk mendapatkan pertimbangan MEXCO-STI terhadap pembangunan strategik industri IAC-REE Malaysia melalui kerjasama berstruktur dengan kerajaan-kerajaan negeri.

Kertas kerja tersebut menggariskan kesiapsiagaan Malaysia dalam menyokong pertumbuhan sektor IAC-REE yang lestari dan berdaya saing serta kepentingan mewujudkan ekosistem yang kukuh dan terkoordinasi antara kerajaan persekutuan dan kerajaan negeri berdasarkan tiga pemangkin utama — teknologi, pembangunan bakat dan model perniagaan. Antara pemerhatian utama ialah keperluan memperkukuh saluran komunikasi, mekanisme libat urus pihak berkepentingan bagi memastikan penajajaran serta penyelarasan yang lebih baik antara agensi persekutuan dan pihak berkuasa negeri. Ketelusan dalam perkongsian maklumat turut ditekankan untuk menyokong pembangunan bertanggungjawab industri IAC-REE sebagai sumber strategik negara.



Science Outlook 2025

Science Outlook 2025 (SO2025) merupakan salah satu kajian perdana ASM yang bertujuan memberikan analisis menyeluruh bagi memperkukuh ekosistem STIE negara. Kajian ini diketuai oleh Emeritus Profesor Dr Nik Meriam Nik Sulaiman FASc dan dibangunkan berdasarkan bukti yang bebas dan objektif. Berbeza dengan edisi terdahulu yang menilai prestasi keseluruhan Malaysia, SO2025 menilai ekosistem STIE di peringkat persekutuan dan negeri. Ia bertujuan untuk menganalisis kesalinghubungan dalam ekosistem ini dan bagaimana ia secara kolektif menyumbang kepada pencapaian visi dan misi negara, dengan tumpuan kepada peningkatan prestasi keseluruhan Malaysia.

Tujuan Kajian:

- Menilai prestasi ekonomi, sosial dan alam sekitar dalam ekosistem STIE di peringkat persekutuan dan negeri.
- Mengenal pasti jurang dalam ekosistem STIE yang boleh menghalang pembangunan mampan.
- Merangka strategi di peringkat persekutuan dan negeri untuk memacu pertumbuhan ekonomi, sosial dan alam sekitar melalui inisiatif STIE.

Pendekatan SO2025 dalam memahami dan memperkasa ekosistem STIE Malaysia mengutamakan penglibatan langsung dengan pemegang taruh tempatan melalui Sesi Libat Urus Pihak Berkepentingan Wilayah (RSE). Kaedah ini memastikan suara dan keperluan setiap kawasan diambil kira bagi penilaian menyeluruh terhadap situasi dan cabaran setempat. Dengan pendekatan bawah-atas (*bottom-up approach*) ini, SO2025 bertujuan untuk memahami keadaan semasa setiap wilayah dengan tepat agar cadangan yang berkesan dapat dirangka. Penekanan terhadap penyertaan setempat dan strategi yang disesuaikan menjadikan SO2025 sebuah kajian yang lebih inklusif dan berimpak tinggi dalam memacu pembangunan mampan di seluruh Malaysia.

Sepanjang tahun 2024, sesi RSE dan mesyuarat telah dijalankan melibatkan 152 peserta, termasuk wakil daripada Pejabat Setiausaha Kerajaan Negeri, syarikat berkaitan kerajaan negeri (GLC), agensi, pertubuhan bukan kerajaan (NGO), serta Jaringan Pakar ASM, bagi membolehkan pertukaran idea dan pandangan secara meluas.

Universiti Teknologi Malaysia (UTM) Johor, 13 Jun 2024

Johor sedang beralih daripada metrik kejayaan projek berdasarkan keuntungan kepada penilaian kesan jangka panjang. Fokus kerajaan negeri termasuk pembangunan dasar perdagangan karbon, Zon Ekonomi Khas Johor-Singapura (JS-SEZ) dan usaha mengekalkan tenaga mahir di Johor.



Pengerusi Projek Science Outlook, Emeritus Profesor Dr Nik Meriam Nik Sulaiman FASc, menyampaikan intipati Science Outlook kepada peserta



YBhg Datuk Ts Dr Ramzah Dambul, KPE IDS Sabah, menyampaikan ucapan alu-aluan kepada para peserta RSE Sabah dan menekankan kerjasama antara ASM dan IDS Sabah

Institute for Development Studies Sabah (IDS Sabah) Sabah, 8 Oktober 2024

Pandangan utama merangkumi aspek ekonomi, sosial dan alam sekitar telah diketengahkan. Peningkatan pelaburan langsung asing dari China dan Korea, ekosistem pemula tempatan yang kukuh, serta kesesakan pelabuhan yang berterusan dan menjejaskan perdagangan serta kebimbangan kesihatan awam semuanya dikaitkan dengan pertumbuhan ekonomi. Selain itu, isu pendaftaran pelajar dalam aliran STEM yang rendah, iaitu 12.37%, jauh di bawah purata kebangsaan sebanyak 22.8%, turut dibincangkan, menandakan keperluan mendesak untuk inisiatif pendidikan. Sabah juga menyasarkan untuk mencapai karbon neutral menjelang 2050 dengan berpandukan *Sabah Energy Roadmap and Masterplan 2040*.

Sarawak Tropical Peat Research Institute Sarawak, 18 Oktober 2024

Beberapa perubahan utama yang memberi kesan kepada Sarawak termasuk penambahbaikan proses pelesenan perniagaan, menangani halangan perdagangan bukan fiskal seperti Peraturan Penebangan Hutan Kesatuan Eropah (EUDR), memberi tumpuan kepada ekonomi baharu dengan tenaga hidrogen serta Penangkapan, Penggunaan dan Penyimpanan Karbon (CCUS) dan meningkatkan infrastruktur untuk menarik pelabur antarabangsa. Dari segi kemakmuran ekonomi seperti yang dilaporkan dalam Strategi Pembangunan Pasca-COVID-19 2030 (PCDS 2030), Sarawak menyasarkan untuk mencapai RM282 bilion menjelang 2030 dengan kadar pertumbuhan tahunan purata sebanyak 8.0%. Namun, infrastruktur luar bandar yang terhad serta akses kepada perkhidmatan kesihatan dikenal pasti sebagai halangan utama dalam usaha mengadaptasi transformasi digital.



Profesor Ts Dr Shahrina Md Nordin FASc, Timbalan Pengerusi SO2025, menyampaikan pembentangan pembuka tirai mengenai gambaran keseluruhan SO2025 dan status semasa ekosistem STIE negara

Kajian Reformasi Pendidikan Negara

Isu-isu berkaitan pendidikan terus menjadi perdebatan hangat di pelbagai peringkat dan forum, termasuk hal-hal pencapaian pelajar, kualiti pendidikan, infrastruktur dan infostruktur pendidikan, serta jurang dalam dasar pendidikan.

Keperluan mendesak untuk pembaharuan menyeluruh dalam sistem pendidikan negara didorong oleh tuntutan era pascanormal — suatu tempoh yang dicirikan oleh ketidakstabilan, ketidaktentuan, kerumitan dan ketidakjelasan.

Sehubungan itu, KE telah menugaskan ASM untuk menjalankan Kajian Reformasi Pendidikan Negara (NER). Objektif kajian ini adalah untuk mencadangkan reformasi yang berasaskan bukti bagi menangani cabaran utama dalam sektor pendidikan serta membangunkan bakat yang mampu berkembang dalam era ini. Syor-syor yang dikemukakan bertujuan untuk meletakkan asas kepada sistem pendidikan yang berpandangan ke hadapan, yang mampu melahirkan bakat masa hadapan dan menyokong matlamat lebih luas negara di bawah Rancangan Malaysia Ke-13.

Reformasi ini mengambil kira pembangunan bakat secara holistik merentasi keseluruhan rantaian pendidikan, termasuk aspek kognitif, sosioemosi, daya tahan serta pembangunan kemahiran asas yang diperlukan agar bakat mampu menyesuaikan diri dan menangani perubahan serta cabaran dengan berkesan.

Kajian ini bertujuan untuk membangunkan potensi penuh setiap individu secara intelektual, emosi, sosial dan kreatif, sambil memupuk nilai moral, adab, matlamat, pembelajaran sepanjang hayat, serta keupayaan untuk menyumbang kepada dunia yang lebih adil, mampan, maju dan inklusif.

Matlamat

1. Pelajar dengan nilai teras yang berpusat kepada kemanusiaan, adaptif dan didorong oleh rasa ingin tahu, serta menghayati inovasi, kreativiti, penentuan sendiri dan keharmonian dengan kesedaran terhadap kesejahteraan mental, kepelbagaian, kesaksamaan dan keterangkuman, serta kesihatan planet.
2. Tenaga kerja yang kompeten untuk memenuhi keperluan masa kini dan masa hadapan.
3. Kesihatan mental yang diberi keutamaan bersama kesejahteraan pendidik dan pelajar.
4. Reka bentuk kurikulum diperkasa teknologi yang inovatif dan inklusif.
5. Ekosistem pendidikan yang berdaya saing tinggi.
6. TVET yang responsif terhadap keperluan semasa dan masa hadapan.
7. Individu yang mempunyai kebolehpasaran tinggi dengan kemahiran keusahawanan dan bersedia untuk masa hadapan.
8. Perspektif global yang memperkukuh kecekapan silang budaya.
9. Memperkasakan individu untuk menyesuaikan diri dan berkembang dalam dunia yang berubah dengan pantas.
10. Membina masyarakat yang inovatif, berdaya tahan, inklusif dan saksama melalui pendidikan yang boleh diakses.
11. Struktur tadbir urus yang cekap dan rangka kerja akauntabiliti yang mantap.
12. Dasar pendidikan yang kohesif dan saksama.
13. Pendidik yang berdaya upaya dengan autonomi dan akauntabiliti.
14. Komunikasi, penyelarasan dan pelaksanaan dasar yang berkesan serta konsisten.
15. Infrastruktur yang saksama dan boleh diakses.
16. Pendekatan pemikiran sistem untuk struktur dan pembiayaan pendidikan.
17. Pembiayaan pendidikan yang mencukupi bagi populasi terpinggir dan orang kurang upaya (OKU).

Bengkel Peringkat Wilayah

Wilayah
Utara
14-15
Oktober
2024



Wilayah Pantai Timur
27-28 November 2024

Sabah
7-8 November 2024

Sarawak
21-22 November 2024

Wilayah Selatan
4-5 Disember 2024

Perbincangan Kumpulan Fokus (FGD)

FGD bersama guru sekolah pada 26 November 2024 telah dijalankan di ASM sempena program Persatuan STEM Kebangsaan mengenai Projek STEM 60:40 Way Forward.

Daripada penglibatan pemegang taruh yang dijalankan, 11 jurang dan cabaran utama telah dikenal pasti:

1. Infrastruktur dan kebolehcapaian yang tidak mencukupi
2. Transformasi digital dan integrasi teknologi yang terhad
3. Tenaga kerja pendidikan & kecekapan
4. Kesihatan mental dan kesejahteraan
5. Tadbir urus, akauntabiliti, isu dasar & strategi komunikasi
6. Etika dan nilai dalam kalangan pelajar dan pendidik
7. Kemahiran sedia masa hadapan dan kebolehpasaran
8. Cabaran kurikulum
9. Kelestarian kewangan
10. Kepelbagaian, kesaksamaan, keterangkuman (DEI)
11. Penglibatan global & penjajaran budaya

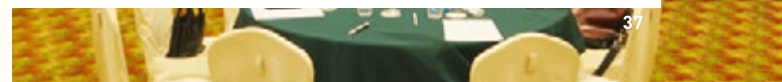
Kajian reformasi pendidikan ini akan berasaskan bukti dan melibatkan penglibatan pemegang taruh di seluruh negara secara meluas. Dapatan daripada bengkel wilayah tersebut akan menjadi input kritikal dalam membangunkan Rangka Kerja Reformasi Pendidikan Negara. Dengan menanda aras terhadap rangka kerja kecekapan dan dasar dari 13 negara, serta standard yang diiktiraf di peringkat antarabangsa, kajian ini bertujuan merumuskan satu rangka kerja pendidikan nasional yang inklusif dan menyeluruh.



Bekas Timbalan Pengarah (Pendidikan), Bahagian Pembangunan Modal Insan, KE, Datin Dr Syahirah Hamidon, menyampaikan ucapan alu-aluan sewaktu bengkel peringkat Wilayah Utara



Para peserta Mesyuarat dan Bengkel Reformasi Pendidikan Negara



Pelan Tindakan Kesihatan Planet Negara

Pelan Tindakan Kesihatan Planet Negara (PTKPN) telah dibangunkan bagi menekankan kesalinghubungan antara kesihatan manusia dan kesihatan planet, suatu pendekatan yang secara semula jadi melengkapi dan menyokong Matlamat Pembangunan Mampan (SDG) Malaysia. ASM telah diamanahkan untuk membangunkan PTKPN yang bersepadu susulan mandat daripada MSN. Dialog Nasional mengenai Kesihatan Planet: Kesalinghubungan antara Manusia, Planet dan Kemakmuran telah dianjurkan bersama pemegang taruh utama pada 25 Julai 2024. Dialog ini bertujuan untuk mencungkil idea dan pendekatan baharu bagi melengkapi penemuan sedia ada.

Sesi ini menghimpunkan kira-kira 250 pemegang taruh utama daripada kementerian, agensi, industri, akademik dan organisasi masyarakat sivil untuk membincang dan mengesahkan pelan tindakan yang dicadangkan. Dialog ini juga bertujuan meningkatkan kesedaran dan pemahaman mengenai PTKPN, memperoleh sokongan di peringkat nasional, serta mendapatkan pengesahan dan input lanjut.

Konsep PTKPN telah diluluskan oleh MSN pada 4 November 2024, dengan permintaan untuk melaksanakan libat urus lanjut bersama KE bagi menyelaraskan pendekatan tadbir urus dengan Majlis SDG ke arah pelaksanaan dan pemerkasaan PTKPN sebagai pelengkap kepada agenda SDG Malaysia.



53
Strategi



224
Pelan
Tindakan

Anjakan

- Memperkukuh tadbir urus & pengurusan khazanah alam semula jadi
- Memupuk rakyat untuk membina negara yang sihat, makmur dan berteraskan nilai
- Perniagaan yang mesra alam dan mampan
- Komunikasi berkesan, pemikiran tingkah laku dan nilai
- Pembiayaan dan peruntukan mampan bagi inisiatif pembangunan kesihatan planet

4 Prinsip Utama



Berpaksikan kemanusiaan



Berlandaskan alam semula jadi



Menggunakan STI

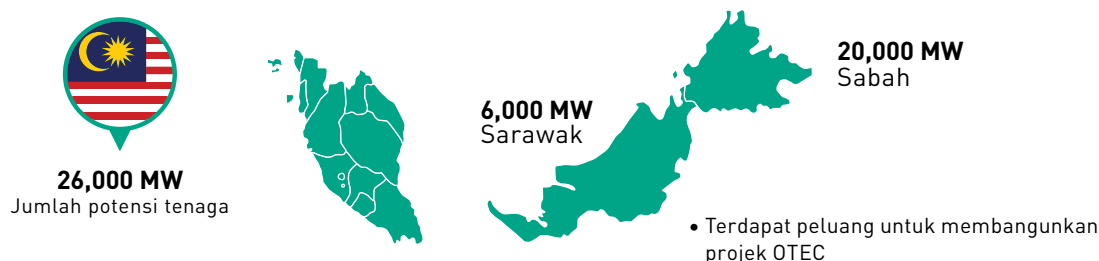


Diterap nilai

Pembangunan Tenaga Haba Lautan untuk Kelestarian

Penukaran Tenaga Haba Lautan (OTEC) adalah teknologi tenaga boleh diperbaharui yang menggunakan perbezaan antara suhu permukaan air yang hangat dan air laut yang sejuk untuk menjana elektrik. Kajian ini bertujuan untuk menekankan bahawa teknologi OTEC berpotensi menjadi sumber tenaga boleh diperbaharui masa hadapan dan terdapat keperluan untuk membangunkan sebuah agensi khusus bagi pengurusan OTEC di Malaysia.

STIPAC, dalam mesyuarat ke-57 yang diadakan pada 10 Ogos 2023, telah meluluskan cadangan oleh SIG yang diketuai oleh Profesor Dato' Ir Dr A. Jaafar Bakar FASc untuk membangunkan satu kertas posisi mengenai Pembangunan Tenaga Haba Lautan untuk Kelestarian (OTEDDS). Kertas posisi ini memberi tumpuan kepada penilaian kebolehlaksanaan OTEC dan potensinya untuk Malaysia. Ia merangkumi gambaran keseluruhan berkaitan tenaga terma lautan, teknologi dan aspek ekonomi yang berkaitan, serta membincangkan ekosistem sedia ada dan masa hadapan yang perlu diwujudkan bagi membolehkan OTEDDS dijadikan agenda nasional secara berkesan.



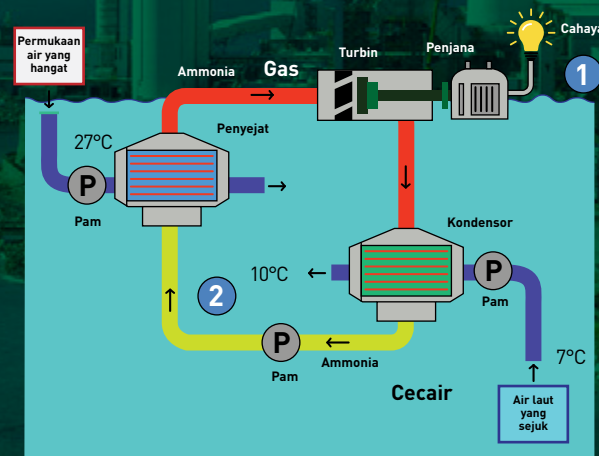
Terdapat dua sumber hasil daripada OTEC:

- 1) Elektrik, ataupun penukaran kepada hidrogen hijau, bersama dengan hasil sampingannya, boleh dimanfaatkan melalui penggunaan air laut yang sejuk yang dilepaskan dari kondensor loji OTEC untuk pelbagai aplikasi. Ini termasuk penyejukan pusat data, akuakultur marin bernilai tinggi, penanaman tanaman iklim sederhana, pengekstrakan litium dan pengeluaran air mineral; dan
- 2) Kos pengeluaran elektrik boleh dikurangkan daripada USD 0.15/kWh kepada USD 0.05/kWh; justeru, pengeluaran hidrogen hijau boleh diturunkan daripada USD 8/kg kepada USD 3/kg.

Sabah mempunyai potensi tertinggi untuk OTEC di Malaysia, dengan kapasiti yang dianggarkan sebanyak 20,000 megawatt. Tenaga ini boleh digunakan untuk bekalan elektrik, penyahgaraman air dan pengeluaran hidrogen hijau melalui proses elektrolisis. Dewan Undangan Negeri Sabah telah meluluskan Rang Undang-Undang OTEC 2024 pada 25 April 2024. Rang undang-undang ini membuka laluan kepada pembangunan OTEC sebagai sumber tenaga boleh diperbaharui yang baru serta sebagai inisiatif utama di bawah Ekonomi Biru. Kajian kebolehlaksanaan OTEC sedang dijalankan oleh tiga syarikat dan dijangka siap dalam tempoh dua tahun. Di Port Dickson, Negeri Sembilan, makmal R&D OTEC Hibrid telah berjaya diuji dan mula beroperasi pada 12 Oktober 2024.

Cadangan:

- 1 Mengiktiraf OTEC sebagai sumber tenaga yang berdaya maju
- 2 Menangani jurang perundangan dan campur tangan yang diperlukan
- 3 Menubuhkan sebuah agensi khusus, Ocean Thermal Energy National Berhad (OTENAS)
- 4 Meningkatkan insentif bagi pembangunan OTEC
- 5 Menggariskan rangka kerja tadbir urus dan kolaborasi pemegang taruh



Rangka Tindakan Ekonomi Biru Malaysia

ASM bersama KE telah mengenal pasti ekonomi biru sebagai sektor ekonomi baharu yang berpotensi untuk dibangunkan di bawah Rancangan Malaysia Ke-13. Berdasarkan Kertas Posisi *Blue Economy: Unlocking the Value of the Oceans* yang diterbitkan oleh ASM pada tahun 2021, satu set syor telah dikemukakan untuk kelulusan dalam mesyuarat MSN yang diadakan pada 14 Mei 2024. Kertas tersebut telah diluluskan, dengan KE menerajui inisiatif ini.

KE telah mengamanahkan ASM untuk menerajui pembangunan Rangka Tindakan Ekonomi Biru Malaysia (MBEB) diketuai Profesor Emeritus Dr Phang Siew Moi FASc dan Profesor Mahendhiran Sanggaran Nair FASc. MBEB bertujuan memperlihatkan nilai kemampanan sumber marin Malaysia, sekaligus mengiktiraf peranan kritikal Ekonomi Biru dalam memacu pembangunan negara. Pada masa ini, ekonomi berasaskan marin menyumbang kira-kira 23% kepada Keluaran Dalam Negeri Kasar (KDNK) Malaysia. Dengan garis pantai yang meluas sepanjang lebih 4,675 kilometer dan kawasan maritim lebih daripada dua kali ganda saiz daratan negara, Malaysia berada dalam kedudukan strategik untuk memanfaatkan sumber marinnnya bagi pertumbuhan ekonomi. Dengan peningkatan produktiviti, sumbangan sumber marin dijangka meningkat daripada 22.0% pada tahun 2020 kepada 31.5% daripada KDNK menjelang 2030. Peningkatan ini berpotensi menjana keuntungan bersih terkumpul kira-kira RM1.4 trilion (keuntungan bersih terkumpul dari 2020 hingga 2030).

Ekonomi biru Malaysia akan dipelbagaikan kepada industri yang lebih berdaya tahan dan lestari, meningkatkan Pulangan Nilai (ROV) sambil meminimumkan kesan ekologi, sekali gus meletakkan negara sebagai peneraju global dalam industri berasaskan lautan yang mampan serta menarik pelaburan asing.

8 Sektor Strategik



Perikanan & Akuakultur



Pengurusan Pelupusan Sisa



Pelancongan Pesisir Pantai dan Maritim



Bioteknologi Marin & Bio-Prospek



Industri Ekstraktif Sumber Bukan Hidupan



Pengangkutan Maritim, Pelabuhan & perkhidmatan berkaitan, Perkapalan dan Pembinaan Kapal



Tenaga Boleh Diperbaharui



Penyahgaraman untuk Penjanaan Air Tawar

2 Sektor Rentas

Perkhidmatan & Kesihatan Ekosistem Lautan

Tadbir Urus & Dasar

Teknologi Kuantum

Teknologi kuantum berpotensi untuk memperkukuh keselamatan siber Malaysia, mempercepat kemajuan dalam AI dan bioteknologi bagi penemuan ubat serta perubatan kepersisan dan meningkatkan kecekapan dalam sektor industri dan kewangan. Inisiatif ini disokong oleh program latihan tenaga kerja dan insentif yang direka untuk menarik syarikat pemula global, sekali gus meletakkan Malaysia sebagai peneraju serantau dan hab kuantum ASEAN menjelang tahun 2035. Visi ini selari dengan Dasar Sains, Teknologi & Inovasi Negara (2021-2030) dan sasaran nasional untuk melahirkan 60,000 jurutera berkemahiran tinggi menjelang 2030.

Sebuah kertas posisi mengenai teknologi kuantum akan dibangunkan bagi mencadang satu rangka kerja konstruktif yang berfokuskan peluang yang boleh dicapai dengan segera. Rangka kerja ini memberikan manfaat awal serta membuka jalan bagi pembangunan dan ekosistem kuantum jangka sederhana dan panjang di Malaysia.

Tujuan Kajian:

- 1) Memperkasa bakat tempatan dalam bidang teknologi kuantum.
- 2) Mengenal pasti agenda penyelidikan berkeutamaan tinggi dalam teknologi kuantum melalui penglibatan aktif dan input daripada pemegang taruh.
- 3) Menawarkan cadangan dasar berasaskan bukti untuk mentadbir teknologi kuantum serta menggalakkan perkongsian kerjasama antara agensi pusat, badan kerajaan lain, akademik, dan pemain industri.

Perancangan masa hadapan Malaysia untuk teknologi kuantum menumpukan kepada pembinaan ekosistem yang kukuh dan mampan bagi menyokong pertumbuhan jangka panjang. Salah satu langkah utama ialah penubuhan Pusat Kecemerlangan (CoE) bagi penyelidikan dan inovasi kuantum. Pusat

ini akan menghimpunkan pakar dari universiti, industri dan agensi kerajaan untuk bekerjasama dan membangunkan bakat tempatan dengan matlamat memajukan bidang seperti pengkomputeran kuantum, kriptografi dan penderiaan, serta meletakkan Malaysia sebagai peneraju serantau dalam teknologi kuantum.

Malaysia juga memerlukan satu dasar kuantum kebangsaan yang selaras dengan matlamat lebih besar negara untuk transformasi industri dan digital. Dasar ini akan membantu menetapkan keutamaan yang jelas, membimbing sokongan serta pelaburan kerajaan dan mewujudkan insentif untuk industri mengguna pakai teknologi kuantum. Ia juga akan merangkumi peraturan untuk menyokong pertumbuhan ekonomi berasaskan kuantum.

Bagi membina kepakaran tempatan, Malaysia merancang untuk mengintegrasikan pendidikan kuantum dalam program sekolah dan universiti. Kursus ijazah baharu akan menggabungkan sains kuantum dengan sains komputer, kejuruteraan dan keselamatan siber. Di samping itu, pentauliahan-mikro dan pensijilan profesional akan ditawarkan untuk membantu golongan profesional sedia ada meningkatkan kemahiran bagi menceburi sektor pekerjaan dalam bidang kuantum.

Akhir sekali, kerjasama antarabangsa akan memainkan peranan penting dalam perjalanan teknologi kuantum Malaysia. Dengan bekerjasama dengan peneraju global dalam penyelidikan kuantum, Malaysia boleh memperoleh pengetahuan berharga, membina rangkaian kukuh dan menyertai inisiatif antarabangsa. Usaha ini akan membantu negara menjadi pemain aktif dalam landskap kuantum global.

Program Tabung Amanah Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh

Program Tabung Amanah Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh (RBS) adalah bukti legasi berterusan salah seorang saintis penyelidikan perubatan dan dermawan terkemuka Malaysia. Dr Ranjeet Bhagwan Singh telah memberikan sumbangan yang tidak ternilai dalam bidang penyelidikan perubatan dan saintifik, khususnya dalam pembangunan makmal diagnostik di Malaysia.

Program Tabung Amanah ini memperkasa inovasi perubatan melalui geran penyelidikan yang berprestij serta syarahan peringatan yang menginspirasi bagi menghormati legasi beliau dalam memajukan penyelidikan perubatan.

Geran Penyelidikan Perubatan RBS bertujuan menyokong saintis muda Malaysia dengan pembiayaan serta bimbingan untuk penyelidikan bioperubatan yang berimpak tinggi. Dr Muhammad Farid Nazer Muhammad Faruq dari Universiti Malaya menerima geran sebanyak RM50,000 bagi penyelidikannya yang bertajuk '*Investigating EV bodies - Bioengineered Extracellular Vesicles (EVs) as Nano-Neutralising Agents Against EGF in Attenuating EGFR-driven Lung Cancer*'. Penyelidikannya berpotensi untuk meningkatkan hasil kesihatan serta mengurangkan beban penyakit di Malaysia.

Syarahan Peringatan telah menampilkan Profesor Kehkooi Kee, Naib Canselor (Antarabangsa) di Universiti Tsinghua, yang membentangkan tajuk '*Revolutionising Health: The Impact of Stem Cells on Basic Research and Medicine*', yang menekankan peranan transformasi sel stem dalam perubatan serta potensinya dalam menangani cabaran perubatan yang kompleks. Program ini dihadiri oleh wakil daripada kementerian, Institusi Pengajian Tinggi Awam dan Swasta (IPTA/S) dan agensi perubatan, dengan lebih daripada 1,800 tontonan dalam talian.

1997-2024:



Geran Penyelidikan RBS telah membuka jalan kepada pembangunan vaksin, penyelidikan kanser, pencegahan penyakit serta inisiatif kesihatan awam, sekali gus menyumbang kepada pembangunan penyelidikan klinikal negara.



Sesi pembentangan oleh penerima geran RBS 2024, Dr Muhammad Farid Nazer, serta penyampaian geran oleh Menteri MOSTI, YB Tuan Chang Lih Kang

Simposium Bilateral ASM - Korean Academy of Science and Technology & Memorandum Persefahaman

ASM, dengan kerjasama KAST, telah berjaya menganjurkan Simposium Bilateral ASM-KAST pada 22 Januari 2024 yang merangkumi tiga sesi, iaitu bidang sains makanan dan hayat, sains perubatan, serta kejuruteraan. Program ini memfokuskan pertukaran kepakaran saintifik antara Malaysia dan Korea, sekali gus membuka laluan kepada kerjasama dan perbincangan masa hadapan.

Program tersebut disempurnakan dengan pemeteraian MoU tambahan antara Presiden ASM, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc dan Presiden KAST, Profesor Ook Joon Yoo, yang disaksikan oleh komuniti saintifik dari kedua-dua akademi.

Usaha kolaboratif ini mengukuhkan lagi komitmen pertukaran maklumat, pengetahuan dan kepakaran dalam STIE antara kedua-dua negara, sekali gus melanjutkan serta memperkukuh kerjasama yang dimulakan melalui MoU asal yang ditandatangani pada 11 Februari 1999. Kolaborasi yang berterusan ini kekal komited dalam memajukan kerjasama saintifik dan teknologi melalui pelbagai pendekatan, serta menandakan pencapaian penting dalam usaha bersama kedua-dua akademi untuk kemajuan dan inovasi.



Presiden KAST menyampaikan pembentangan berkenaan KAST, diikuti dengan majlis penandatanganan MoU antara ASM dan KAST

Memorandum Persefahaman ASM - Chinese Academy of Sciences

ASM telah menandatangani MoU bersama CAS pada 9 Disember 2024 yang akan meneruskan kerjasama kedua-dua akademi ini sejak tahun 1999 melalui Memorandum Kerjasama Saintifik, Kejuruteraan dan Teknologi. Majlis tersebut melibatkan Presiden ASM, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc dan Naib Presiden CAS, Profesor Hongping He.

Dengan komitmen yang diperbaharui ini, ASM dan CAS mengangkat visi bersama ke tahap yang lebih tinggi, dengan tumpuan kepada bidang-bidang baharu seperti neuroteknologi, kecerdasan buatan (AI), pertanian dan tenaga boleh diperbaharui. Salah satu aspek menarik dalam MoU yang diperbaharui ini ialah pertukaran saintis antara kedua-dua negara. Usaha ini juga akan menyokong pelaksanaan MoU yang telah dimeterai awal tahun ini antara kerajaan Malaysia dan China bagi menubuhkan Program Pertukaran Rakyat-ke-Rakyat Sains dan Teknologi Malaysia-China 2025.



Majlis penandatanganan MoU antara ASM dan CAS, disaksikan oleh Menteri MOSTI

Tropical Sciences 2024

Persidangan Antarabangsa Sains Tropika ke-2 2024 (TropSc™2024) bertemakan 'Mengharmonikan Kemanusiaan bersama Alam' telah dianjurkan pada 16 dan 17 Oktober 2024. Penganjur bagi program ini adalah Tropical Science Foundation (TSF) dengan kerjasama ASM, Universiti Malaysia Sarawak (UNIMAS), dan mendapat sokongan daripada Kerajaan Sarawak. Acara ini telah dirasmikan oleh Premier Sarawak, Datuk Patinggi Tan Sri (Dr) Abang Haji Abdul Rahman Zohari Tun Datuk Abang Haji Openg.

Tema:



Pertanian
Tropika



Seni Bina dan
Kejuruteraan Tropika



Perubahan
Tropika



Sumber Asli
Tropika

Tema Khas:



Perubahan Iklim di
Kawasan Tropika



Sains Terbuka dalam
Biodiversiti Tropika



Perlindungan Pengetahuan
Peribumi dan Tempatan
di Kawasan Tropika

20

Negara

321

Peserta secara
fizikal

4

Perkongsi
strategik

18

Sesi

TropSc™2024 mempunyai agenda yang kukuh, dengan objektif utama untuk membentuk sebuah Perikatan untuk Kawasan Tropika, iaitu satu rangkaian kerjasama yang bertujuan menangani cabaran dan potensi kawasan ini. Persidangan ini diakhiri dengan '*Kuching Declaration for the Tropics*' yang diketuai oleh Pengarah Eksekutif TSF, Academician Emerita Profesor Tan Sri Dato' Seri Dr Mazlan Othman FASc. Deklarasi ini menekankan kepentingan dan cabaran kawasan tropika serta menyeru penglibatan pelbagai pemegang taruh, termasuk kerajaan, NGO, akademik dan komuniti setempat untuk bekerjasama demi masa hadapan kawasan Tropika.

TropSc™2024 juga menyediakan platform untuk mengiktiraf individu yang menunjukkan kecemerlangan dalam penyelidikan, inovasi dan komunikasi berimpak tinggi dalam bidang masing-masing.

Pembentang Lisan Terbaik:

Pertanian Tropika

Nicodemus Ujih (Sarawak Tropical Peat Research Institute, Malaysia)

Seni Bina & Kejuruteraan Tropika

Dr Bridgid Chin Lai Fui (Curtain University, Malaysia)

Perubahan Tropika

Dr Eugenie Tan (UCSI University, Malaysia)

Sumber Asli Tropika

Siew Te Wong (Bornean Sun Bear Conservation Centre, Sabah, Malaysia)

Perubahan Iklim di Kawasan Tropika

Mike Espenberg (University of Tartu, Estonia)

Sains Terbuka dalam Biodiversiti Tropika

Dr Nurzatil Sharleeza Mat Jalaluddin (Universiti Malaya)

Pembentangan Poster Terbaik

Floristic Composition of Maludam Peat Swamp Forest, Sarawak, Malaysia

Lijan John Anak Ahmui
(Sarawak Tropical Peat Research Institute, Malaysia)



Sekitar Persidangan Antarabangsa TropSc 2024 yang ke-2



Menjelang persidangan ini, beberapa siri webinar telah dianjurkan sebagai platform yang berkesan untuk dialog dan perkongsian ilmu sekali gus mengukuhkan komitmen kami dalam menangani cabaran dan potensi kawasan Tropika.

Hari Kejuruteraan Sedunia

4 Mac 2024

Engineering for a Greener Tomorrow

Hari Hutan Antarabangsa

21 Mac 2024

Forest Issues of the Tropics

Hari Kesihatan Sedunia

4 April 2024

Empowering Voices: Advocating for Health Rights

Hari Biodiversiti Sedunia

20 Mei 2024

From Agreement to Action: Build Back Biodiversity

Hari Konservatif Ekosistem Hutan Paya Laut Antarabangsa

26 Julai 2024

Mangroves: Guardians of Our Coasts

Hari Belia Antarabangsa

29 Ogos 2024

Youth Digital Pathways for Sustainable Development

Hari Antarabangsa Orang Asal Sedunia

5 September 2024

Protecting the Rights of Indigenous Peoples in Voluntary Isolation and Initial Contact

Hari Gunung Antarabangsa

11 Disember 2024

Mountain Solutions for a Sustainable Future – Innovation, Adaptation, Youth, and Beyond

"Kami komited untuk memupuk penyelidikan, menggalakkan inovasi dan menyokong inisiatif pemuliharaan yang dipacu oleh komuniti bagi memastikan ekosistem ini terus berkembang maju untuk generasi akan datang. Bagi pihak Kerajaan Sarawak, saya ingin mengulangi komitmen teguh kami dalam memelihara dan mengurus khazanah tropika kita secara lestari."

YAB Datuk Patinggi Tan Sri (Dr) Abang Haji Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg,
Premier Sarawak



Imbas di sini untuk membaca laporan penuh

ASEAN Ahead

Dalam era pascanormal yang dicirikan oleh keberantakan, kerumitan dan kesalingcanggahan ini, kita berdepan dengan realiti baharu dan satu perjalanan yang mencabar dengan pelbagai liku. Association of Southeast Asian Nations (ASEAN) harus diposisikan sebagai satu kuasa global (*global powerhouse*) untuk kekal ke hadapan dan ini memerlukan tindakan kolektif oleh semua Negara Anggota ASEAN (AMS).

Pada tahun 2019, ASEAN Foresight Alliance (AFA) telah ditubuhkan bagi menghubungkan ASEAN dengan inisiatif daya jangka global. ASM telah menghasilkan laporan '*ASEAN Ahead: ASEAN STI Ecosystem Foresight 2035 and Beyond*' yang memfokuskan arah masa hadapan dalam STI di ASEAN. Idea utamanya adalah untuk negara-negara ASEAN bekerjasama secara kolektif dalam mendepani trend ini demi manfaat bersama seluruh komuniti.

Laporan tersebut membentangkan empat senario masa hadapan. Latihan daya jangka ini telah dibiayai dan dijalankan secara proaktif oleh ASM bagi memberi input dan seruan bertindak dalam mengemudi masa hadapan ASEAN ke arah 2050 berteraskan STIE. Ia menerima dan mencadangkan penyelesaian untuk menyokong pembangunan komuniti ASEAN yang inklusif, dinamik, berdaya tahan dan lestari, dengan menggabungkan kepakaran pelbagai pemegang taruh di seluruh AMS, menerusi inisiatif dana jangka (*foresight*) ini, AMS mengukuhkan posisi strategik di peringkat serantau dan global.



Pembentangan ASEAN AHEAD: ASEAN STI Ecosystem Foresight 2035 and Beyond oleh Academician Profesor Emerita Tan Sri Datuk Sri Dr Mazlan Othman FASc semasa Mesyuarat ASEAN COSTI ke-85 (COSTI-85)



10 ahli Lembaga Penasihat ASEAN Foresight Alliance



10 ahli Kumpulan Penyelidikan ASEAN Foresight



43 kementerian dan institusi yang terlibat dalam pelan dan inisiatif negara



8 sesi FGD yang melibatkan



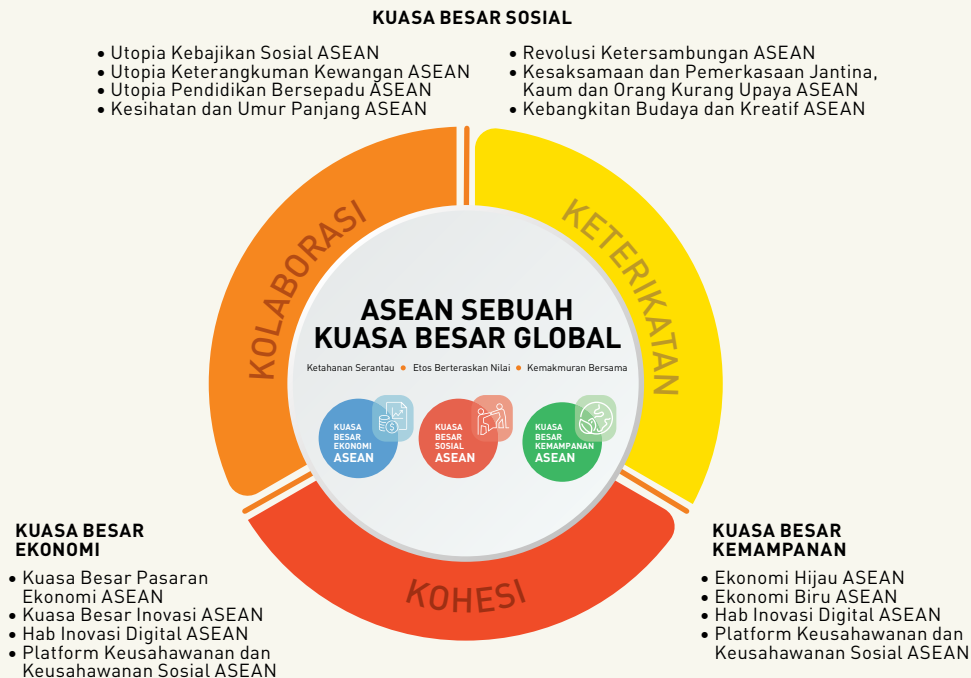
8 Negara Anggota ASEAN



102 wakil yang terlibat sepanjang kajian

Dalam membangunkan laporan ini, ekosistem STIE ASEAN, interaksinya dengan Kuasa Perubahan Global, serta impaknya telah dianalisis melalui Rangka Kerja Triple-10. Hasilnya, laporan ini menekankan penghasilan kemakmuran sektor sosioekonomi yang digerakkan oleh STIE dan kepentingan memanfaatkan kuasa-kuasa ini dalam mengemudi masa hadapan ASEAN. MSN telah meluluskan inisiatif ASEAN Ahead yang membayangkan ASEAN sebagai kuasa inovasi masa hadapan.

Sebagai satu kuasa global, ASEAN berhasrat untuk mencapai kemakmuran bersama menjelang 2050 yang bergantung kepada daya tahan serantau berteraskan STIE dan etos berpaksikan nilai, dengan mempromosikan kemakmuran bersama melalui kerjasama, kesepaduan dan perpaduan dalam menghadapi cabaran merentas sempadan. Kerjasama merujuk kepada usaha bersama dalam kalangan negara anggota, kesepaduan menekankan keperluan dasar dan tindakan yang selaras, manakala perpaduan menggariskan kepentingan kesatuan dan solidariti. Melalui penyatuan serantau, sebuah ASEAN yang makmur, berkembang maju dan berdaya tahan menjelang 2050 dan seterusnya boleh direalisasikan.



Laporan ini telah melalui pelbagai peringkat pengesahan:

13 September 2023

Diluluskan oleh Lembaga Penasihat AFA

3 Jun 2024

Mesyuarat ke-60 Jawatankuasa Kecil ASEAN mengenai Pembangunan Infrastruktur dan Sumber Sains & Teknologi (SCIRD-60)

4 Jun 2024

Mesyuarat ke-85 Jawatankuasa ASEAN mengenai Sains, Teknologi dan Inovasi (COSTI-85)

7 Jun 2024

Mesyuarat Menteri ASEAN ke-20 mengenai Sains, Teknologi dan Inovasi (AMMSTI-20)

4 November 2024

Dibentangkan dan disahkan oleh NSC

APEC Open Science Alliance

Sempena kejayaan *Malaysia Open Science Alliance* yang telah ditubuhkan untuk mempelopori agenda sains terbuka negara, Malaysia telah mengetengahkan konsep APECOSA semasa program *Asia Pacific Economic Cooperation* (APEC) pada tahun 2023 di Amerika Syarikat, seiring dengan tahun meraikan sains terbuka. Visi APECOSA adalah untuk memastikan bahawa ekonomi-ekonomi APEC dapat memanfaatkan teknologi digital bagi mencari penyelesaian terhadap cabaran serantau dan global demi pembangunan yang inklusif dan mampan, mempromosikan pelaksanaan penyelidikan yang bertanggungjawab (ketelusan dan mengelakkan pengulangan penyelidikan yang tidak perlu), serta menghapuskan halangan kepada aliran bebas pengetahuan melalui pemeliharaan, kebolehcapaian dan kebolehgunaan semula data.

Menerusi visi ini, ASM dengan kerjasama Majlis Sains Antarabangsa (ISC), telah menganjurkan dua bengkel APECOSA, secara maya pada 20 Jun 2024 dan fizikal di Lima, Peru, semasa mesyuarat ke-24 *Policy Partnership on Science, Technology and Innovation* (PPSTI) pada 18 Ogos 2024. Sebagai penyelia projek APECOSA, Profesor Dr Noorsaadah Abd Rahman FASc telah membentangkan dan menyelia kedua-dua bengkel tersebut.

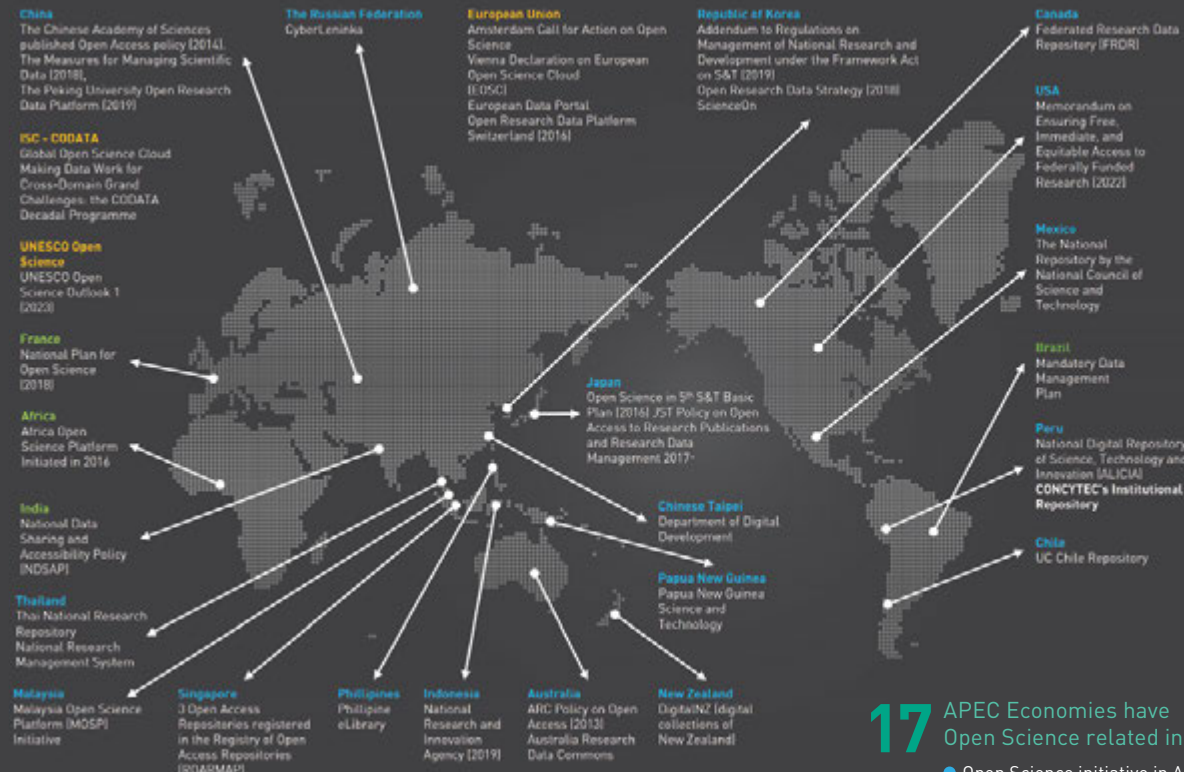
Bengkel secara maya dan fizikal ini telah menarik:

16 penceramah dan moderator

76 peserta

19 ekonomi APEC

3 ekonomi bukan APEC



17 APEC Economies have Open Science related initiatives

- Open Science initiative in APEC Economies
- Open Science initiative in non-APEC economies
- Open Science initiative by global institution/regions

*List is non-exhaustive

Ekonomi APEC mempunyai tahap inisiatif dan aktiviti sains terbuka yang berbeza-beza. Telah dipersetujui bahawa untuk memacu sains terbuka, tumpuan penting adalah seperti berikut:

- **Dasar dan Garis Panduan** bagi memudahkan pelaksanaan amalan sains terbuka dalam ekonomi, pengagihan dana untuk menyokong sains terbuka dan memastikan penyelidik mendedahkan penyelidikan mereka, terutamanya projek yang dibiayai oleh dana awam, kepada umum.
- **Pembangunan Kapasiti** dalam kalangan pemegang taruh penyelidikan seperti penyelidik, pustakawan, pegawai kerajaan, pegawai undang-undang dan pegawai sokongan penyelidikan untuk memastikan peralihan yang lancar ke arah sains terbuka.
- **Amalan Pengurusan Data Penyelidikan**, termasuk piawaian metadata dan pembangunan pelan pengurusan data penyelidikan.
- **Infrastruktur dan Infostruktur**, yang menyokong perkongsian data untuk meningkatkan ketersediaan dan kebolehcapaian terhadap pengetahuan saintifik dan membolehkan kerjasama antarabangsa dan pelbagai disiplin.

APECOSA merupakan saluran penting bagi ekonomi APEC untuk berkongsi amalan terbaik dalam sains terbuka bagi memacu kemajuan STI di rantau ini. Pembentangan mengenai APECOSA telah menggariskan hala tuju strategik perikatan ini, dengan mencadangkan penubuhan hubungan rasmi dengan titik fokus sains terbuka dari setiap ekonomi APEC. Matlamatnya adalah untuk membentuk perikatan ini secara rasmi menjelang tahun 2026, dengan projek perintis yang memanfaatkan perikatan ini dirancang untuk tahun 2027.



Profesor Dr Noorsaadah Abd Rahman FASc di bengkel APECOSA semasa Mesyuarat PPSTI ke-24 di Lima, Peru



KPE ASM menyampaikan pembentangan pembuka tirai semasa PPSTI Workshop on Landscape Study and Benchmarking bagi Open Science Alliance APEC



Para peserta bengkel APECOSA



Imbas di sini untuk membaca laporan penuh

Forum Science Academies of Asia

Susulan pembaharuan MoU antara ASM dan KAST, serta penganjuran Simposium Dua Hala ASM-KAST 2024 pada 22 Januari 2024, Presiden ASM telah dijemput oleh KAST untuk menyertai *Forum Science Academies of Asia* (SAAF) 2024 yang berlangsung di Seoul dari 19–22 November 2024. Program ini turut merangkumi lawatan industri ke Muzium Inovasi Samsung dan Pangyo Techno Valley. SAAF 2024 membincangkan tema “Kemajuan Sains dan Teknologi di Asia”. Presiden dan wakil daripada 10 akademi sains, termasuk Association of Societies of Sciences in Asia (AASSA), telah menyertai forum ini untuk berkongsi pengalaman serta membincangkan kemajuan sains dan teknologi di Asia demi pertumbuhan mampan dan kemakmuran bersama.

Di akhir forum, satu Deklarasi Bersama untuk Kemajuan Sains dan Teknologi di Asia telah ditandatangani oleh AASSA, KAST, Indonesia Academy of Sciences, Science Council of Japan, Nepal Academy of Science and Technology, Pakistan Academy of Science, Science Council of Asia, National Academy of Science and Technology of the Philippines, Turkish Academy of Sciences dan Academy of Sciences of the Republic of Uzbekistan. Deklarasi bersama ini sebulat suara mengiktiraf keperluan untuk meningkatkan bajet penyelidikan dan pembangunan (R&D) di Asia, memperluas program pendidikan sains dan teknologi, memodenkan infrastruktur penyelidikan saintifik, serta menyokong inisiatif penyelidikan bersama dan kerjasama pendidikan dalam kalangan saintis serantau.

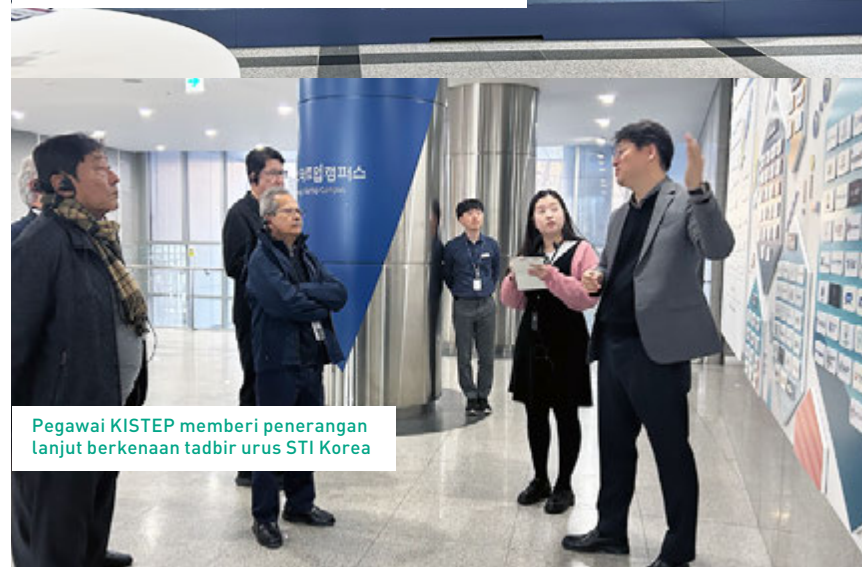
Sepanjang lawatan ke Seoul, Presiden ASM turut mengambil peluang untuk mengadakan kunjungan hormat ke Korea Institute of S&T Evaluation and Planning (KISTEP) dan Kementerian Sains dan ICT (MSIT) bagi mendapatkan pandangan berkenaan tadbir urus STI Korea serta dasar-dasar STI yang memacu dan memperkukuh ekosistem dan pembangunan STI di Korea.



President KAST semasa ucapannya di *Forum Science Academies of Asia*



Sesi bergambar bersama Ahli-Ahli Deklarasi Bersama untuk Kemajuan Sains dan Teknologi di Asia



Pegawai KISTEP memberi penerangan lanjut berkenaan tadbir urus STI Korea

Bengkel Diagnostik dan Terapeutik ASM - Academy of Medical Sciences UK

Perubahan demografi di Asia Tenggara telah meningkatkan permintaan terhadap kemudahan diagnostik dan farmaseutikal, sekali gus menentengahkan keperluan untuk akses dan kemampuan yang lebih baik. Ketidaksamarataan dalam akses kepada diagnostik dan rawatan, terutamanya di kawasan luar bandar, menjadi cabaran besar dalam mencapai liputan kesihatan sejagat.

Bagi menangani isu ini, ASM dan Academy of Medical Sciences UK (AMS) telah menganjurkan Bengkel Diagnostik dan Terapeutik dari 1-2 Julai 2024 bagi memperkukuh pembangunan dan kebolehcapaian diagnostik serta terapeutik di seluruh SEA, dengan Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc sebagai Pengerusi Bersama Jawatankuasa Pemandu.

Bengkel ini berlangsung selama dua hari dengan matlamat untuk menangani jurang penjagaan kesihatan yang ketara di Asia Tenggara. Program ini menghimpunkan peserta daripada pelbagai latar belakang dan menampilkan perbincangan serta sumbangan daripada pakar-pakar terkemuka. Hari pertama dimulakan dengan pembentangan utama yang menarik daripada penceramah ternama, diikuti dengan sesi panel pakar. Di hari kedua, pakar tempatan dan antarabangsa berkongsi kajian kes yang berimpak tinggi, yang kemudiannya mendorong kepada pembentangan berkumpulan secara kolaboratif.

Acara ini diakhiri dengan sesi pleno di mana beberapa tindakan utama telah dikenalpasti, termasuk menggalakkan kerjasama merentas Asia Tenggara melalui penglibatan kerajaan dan pembuat dasar, membangunkan platform peraturan ASEAN yang adaptif bagi diagnostik dan terapeutik, serta merombak sistem pendidikan untuk melahirkan penyelidik yang lebih memahami ekosistem penjagaan kesihatan. Penggunaan teknologi baharu seperti alat kesihatan digital, teleperubatan dan AI turut ditekankan sebagai elemen penting dalam memperkasakan penyampaian perkhidmatan kesihatan. Di samping itu, strategi untuk memastikan kesiapsiagaan ekosistem tempatan turut diberi penekanan. Forum ini diharapkan memperkasa peserta untuk memacu perubahan bermakna di negara dan institusi masing-masing.

Bengkel ini melibatkan:



60

tokoh dan pakar terkemuka



10

negara

"Berlainan daripada apa yang dicari sains normal, perilaku baru muncul tidak dapat diramal. Teknologi kembar digital bagi sistem kesihatan mungkin apa yang kita perlukan dalam mencari persekitaran operasi yang selamat dan optimum. Kita hanya boleh berharap agar sistem kesihatan yang kita bina akan menggalakkan kehidupan yang sihat dan bermakna."

Presiden ASM, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc



Sorotan sepanjang Bengkel Diagnostik dan Terapeutik ASM - AMS UK



Imbas di sini untuk membaca laporan penuh

Program Pelajar Musim Panas CERN

ASM turut menerajui projek kolaboratif bersama European Organisation for Nuclear Research (CERN) menerusi program pertukaran saintifik dan kolaborasi melibatkan saintis untuk memperkukuh kecemerlangan dalam STI.

Dua pelajar cemerlang Malaysia, Nurul Nabiilah Sulaiman, 25, dan Shim Zi Jun, 23, telah terpilih untuk menyertai Program Pelajar Musim Panas CERN 2024 (CSSP) di Geneva, Switzerland. Mereka merupakan antara 150 saintis muda dari seluruh dunia yang diberi peluang untuk terlibat secara langsung dalam operasi harian pasukan penyelidik yang menjalankan eksperimen di CERN. Program ini telah berlangsung dari 1 Julai hingga 25 Ogos 2024.

Pada 11 September 2024, mereka telah mengadakan sesi perkongsian bersama Menteri MOSTI, YB Tuan Chang Lih Kang. Dalam sesi tersebut, beliau dimaklumkan bahawa program ini bukan sahaja merangsang minat pelajar terhadap bidang sains, fizik, pengkomputeran dan kejuruteraan, malah turut memberi pendedahan dan peluang jaringan yang berharga bersama penyelidik antarabangsa. Beliau turut menegaskan komitmen kerajaan untuk meneruskan dan memperluaskan penyertaan pelajar dalam program antarabangsa berprestij, seperti CSSP, sebagai sebahagian daripada usaha menyasarkan lebih ramai pelajar dan bakat Malaysia ke persada penyelidikan global.



Shim Zi Jun berpeluang menyaksikan secara langsung salah satu eksperimen yang dijalankan

Mesyuarat Nobel Laureate Lindau

Mesyuarat Tahunan Nobel Laureate Lindau yang diadakan di Lindau, Jerman, menghimpunkan Penerima Anugerah Nobel dan saintis muda dari seluruh dunia untuk bertukar pengetahuan, idea dan pengalaman. Mesyuarat ini menyediakan peluang unik kepada penyelidik muda untuk berinteraksi dengan saintis terkemuka.

ASM, sebagai Institusi Pencalonan mesyuarat ini sejak tahun 2004, telah memilih saintis muda Malaysia yang berpotensi tinggi bagi menyertai perhimpunan yang berprestij ini. Sehingga kini, seramai 86 saintis muda Malaysia telah terpilih untuk menyertai mesyuarat tersebut.

Wakil dari Malaysia, Nur Alia Sheh Omar, 32, dan Tang Jia Heak, 21, telah berkongsi perjalanan dan pandangan inspirasi mereka mengenai penyelidikan masing-masing pada 30 Jun hingga 5 Julai 2024 dan bagaimana mereka berpotensi membentuk masa hadapan sains di peringkat global. Mereka turut disertai lebih 600 saintis muda cemerlang dari lebih 90 buah negara serta berpeluang berinteraksi secara langsung dengan 30 Penerima Anugerah Nobel.

Program ini bertujuan untuk memberikan kesan positif yang berkekalan kepada para peserta untuk menangani isu-isu kritikal dan memperbaiki kualiti kehidupan masyarakat melalui kemajuan sains dan teknologi.



Nur Alia Sheh Omar (hujung kanan) bersama para peserta Mesyuarat Nobel Laureate Lindau



Imbas di sini
untuk mendengar
podcast

International Science, Technology, and Innovation Centre

International Science, Technology, and Innovation Centre for South-South Cooperation under the auspices of UNESCO (ISTIC) adalah Pusat Kategori 2 UNESCO yang dihoskan oleh Kerajaan Malaysia sejak tahun 2008.

Salah satu program utama ialah Simposium Antarabangsa Pusat Kategori 2 UNESCO dalam Sains Semula Jadi pada Mei 2024 di Kuala Lumpur. Simposium ini menghimpunkan lebih 70 wakil daripada Pusat Kategori 2 UNESCO seluruh dunia. Dengan tumpuan kepada pengukuhan penyelarasan dan pemajuan SDG, simposium ini menyediakan platform dinamik untuk dialog, tinjauan semula dan kerjasama. Para peserta membincangkan kaedah untuk memperkemas usaha dan berkongsi amalan terbaik bagi meningkatkan impak kolektif pusat-pusat ini. Program ini menyerlahkan peranan penting STI dalam menangani isu-isu global yang kompleks seperti perubahan iklim, pengurusan sumber, dan pembinaan kapasiti di kawasan yang kurang mendapat perhatian.

ISTIC turut melancarkan program perdana yang dirancang bagi menangani cabaran STI khusus yang dihadapi oleh negara membangun. Program Latihan Inovasi STI KISTEP-ISTIC (Julai 2024, Malaysia) telah memperkasakan peserta dengan alat dan kerangka inovatif untuk menangani isu pengkomersialan sains dan teknologi. Sementara itu, Program Latihan Antarabangsa mengenai Polisi STI (September 2024, Malaysia) menawarkan pendekatan mendalam terhadap strategi untuk mengintegrasikan STI dalam agenda pembangunan negara. Aktiviti praktikal, latihan membina senario dan perbincangan mendalam ini mempersiapkan peserta untuk mengurus STI dan pembangunan sosioekonomi dengan yakin dan jelas.

Menyedari juga keperluan untuk pembinaan kapasiti serantau, ISTIC telah meluaskan jangkauannya melalui Bengkel Afrika Timur (April 2024, Kenya) dan Bengkel Afrika Selatan (Julai 2024, Afrika Selatan), yang menyediakan latihan praktikal dalam penulisan cadangan penyelidikan dan kerjasama transdisiplin. Sementara itu, Bengkel Pendidikan AI (November 2024, Malaysia) membuka lembaran baharu dengan memperkenalkan pendidik kepada konsep kecerdasan buatan dan metodologi pengajaran yang praktikal. Bengkel ini membantu mempersiapkan generasi masa hadapan untuk cemerlang dalam dunia yang semakin digital dan automatik, dengan menyelaraskan sistem pendidikan dengan keperluan industri.

ISTIC terus komited untuk memperkukuh peranan STI, khususnya dalam negara-negara Selatan Global. Dengan meneruskan kerjasama bersama rakan kongsi global dan serantau, ISTIC akan memperluas usahanya untuk menangani keutamaan baharu dan memastikan tiada negara yang tercicir dalam perjalanan menuju masa hadapan yang mampan dan inklusif.



Peserta dan penganjur daripada ISTIC, NRF, dan FEAHLC di Bengkel Serantau Afrika Selatan mengenai Penguasaan Penulisan Cadangan Penyelidikan di Afrika Selatan



Menteri MOSTI bersama Penolong Ketua Pengarah Sains Asli UNESCO, Puan Lidia Brito, dan Pengerusi Lembaga Pemegang Amanah ISTIC, Profesor Basyarudin Abdul Rahman, di Simposium UNESCO C2C



Para peserta semasa Program Latihan Inovasi S&T KISTEP-ISTIC 2024



MEMBENTUK MASA HADAPAN MELALUI SEMPADAN BAHARU & SOLUSI INOVATIF



National Science Challenge

Selama dua tahun berturut-turut, *National Science Challenge* (NSC) telah mendapat penyertaan lebih daripada **9,000 kumpulan** yang melibatkan hampir **30,000 pelajar** dari seluruh negara. NSC telah disertai oleh:

29,067
pelajar

9,689
kumpulan



40.8%
lelaki



59.2%
perempuan



1,622
guru
mentor

670
Sekolah



522
sekolah
bandar
(77.9%)



148
sekolah
luar bandar
(22.1%)

Tema Memacu 'Era Transformasi Digital: Merintis Inovasi dan Penyelesaian Mampan' telah dipilih untuk meningkatkan kesedaran tentang kepentingan transformasi digital yang seiring dengan nilai-nilai kemanusiaan. NSC telah mengadakan semula STEM Camp di Peringkat Separuh Akhir secara fizikal yang membantu interaksi langsung di antara pelajar dan para saintis, di samping mengetengahkan bimbingan, peluang pembelajaran secara amali, aplikasi sains di dunia nyata serta pendedahan kepada kehidupan di universiti.



Peringkat Akhir:
24 September 2024



Peringkat Separuh Akhir:
17 – 21 September 2024



Pendaftaran:
1 April–31 Mei 2024



Peringkat Awal:
18–30 Jun 2024

Peringkat Negeri:
22–25 Julai 2024



ASPECTS OF SCIENCE INVOLVED:

1. Science Process
2. Communication and Collaboration
3. Problem Solving
4. Creativity and Innovation

NSC 2024 telah menunjukkan impak yang ketara terutamanya dari segi pembangunan bakat STEM di Malaysia.

1. Menyokong Matlamat Pendidikan Negara

NSC bergerak seiring dengan agenda negara untuk meningkatkan bilangan pelajar yang memilih aliran STEM, selaras dengan keperluan negara untuk menyediakan generasi yang seimbang dan harmonis dari segi intelek, emosi dan jasmani.

2. Membangunkan Bakat Sedia Masa Hadapan

NSC memberi peluang kepada pelajar untuk membangunkan kemahiran menyelesaikan masalah, berkomunikasi dan berkolaborasi di samping pemikiran kritis dan kreatif. Pelajar juga telah membangunkan nilai-nilai analitik dan kepimpinan.

3. Membentuk Pemimpin dan Saintis Muda

Pelajar telah berpeluang untuk mengemukakan idea yang inovatif serta berinteraksi dengan pakar-pakar dan fasilitator dari pelbagai bidang saintifik dan pelajar-pelajar dari seluruh negara.

4. Pendedahan di Peringkat Antarabangsa

Pemenang NSC telah diberi pendedahan kepada inovasi dan budaya STEM antarabangsa melalui program Sakura Science Exchange Programme di Jepun.

Pengukuhan pembelajaran formal melalui aktiviti tidak formal seperti pertandingan NSC ialah kaedah penting untuk memupuk minat mendalam pelajar terhadap subjek STEM.

Menteri MOSTI,
YB Tuan Chang Lih Kang



Juara National Science Challenge 2024, Benedict Lau Shu Xian, Chua Poh Hui dan Parousia Kong Chii Kai dari Sekolah Menengah Swasta St. Joseph, Sarawak



Juara: Sekolah Menengah Swasta St. Joseph, Sarawak



Naib Juara: MRSM Langkawi, Kedah



Tempat Ketiga: SMK Sultan Ismail, Johor



Tempat Keempat: MRSM Gerik, Perak



Tempat Kelima: SMK Jit Sin, Pulau Pinang

Pengiktirafan Baharu 2024:

Penyertaan Sekolah Yang Tertinggi:

Jabatan Pendidikan Negeri Selangor

Penyertaan Sekolah Luar Bandar Tertinggi:

Jabatan Pendidikan Negeri Sabah

Pelajar Terbaik STEM Kuiz Peringkat Awal:

Joanne Lim Yii Jun, SMK Bintulu, Sarawak

Komunikator STEM Terbaik:

Chuah Yee Jia, SMK Sultan Ismail, Johor



Imbas di sini
untuk menonton
sorotan
Peringkat Akhir

Biodiversiti Kepersisan

Malaysia sebagai salah satu daripada 12 negara mega biodiversiti di dunia komited untuk melindungi planet dan memberikan pulangan sosioekonomi secara efektif melalui cadangan-cadangan Kertas Strategik Biodiversiti Kepersisan (PBD).

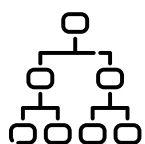
Program Pendigitalan dan Internet Benda (IoT) untuk Biodiversiti merupakan pembangunan projek perintis di Hutan Simpan Pasoh yang diterajui oleh ASM dengan kerjasama pasukan teknikal dari UTM, Universiti Putra Malaysia (UPM) dan Institut Penyelidikan Perhutanan Malaysia (FRIM). Projek ini bertujuan membangunkan sebuah sistem pendigitalan biodiversiti dengan aplikasi IoT untuk memantau biodiversiti Malaysia. Matlamat jangka panjang ialah untuk memperluas pelaksanaan sistem ini ke hutan-hutan simpan lain di seluruh negara.

Mesyuarat Perikatan PBD yang pertama telah diadakan pada 14 Februari 2024 di ASM. Objektif mesyuarat tersebut ialah untuk memajukan pembangunan PBD dan menggalakkan serta mempergiat penerimaan teknologi termaju di Malaysia. Mesyuarat tersebut telah bertindak sebagai platform untuk mengetengahkan perkembangan projek dan perkongsian daripada ahli-ahli Perikatan.

Pada masa ini, Perikatan PBD mempunyai 31 orang ahli daripada 16 organisasi.



31
ahli



16
organisasi

Pada tahun ini, sebuah MoU telah ditandatangani bersama FRIM, salah sebuah pemegang taruh utama ASM. Kerjasama ini telah memudahkan perkongsian dan pertukaran data kritikal secara rasmi untuk membolehkan pendigitalan dan penjadualan maklumat penting untuk kegunaan projek di masa hadapan. Selain itu, sebuah laman sesawang dan aplikasi mudah alih telah dibangunkan untuk memperkemas tugas harian penyelidik serta memudahkan pengumpulan data. Pada masa ini, aplikasi mudah alih tersebut telah selesai melalui ujian sistem.



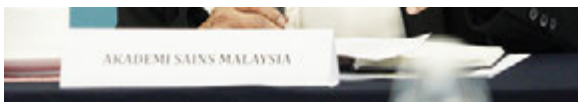
Kamera perangkap merekod kehadiran haiwan yang akan diklasifikasikan menggunakan teknologi AI di hutan Pasoh



Dron yang digunakan bagi merekod imej kanopi Hutan Pasoh secara masa nyata



Pengerusi Perikatan PBD, Dr Helen Nair FASc, mengetuai Mesyuarat Perikatan PBD



Aktiviti

- **Bengkel Simulator Ekologi bersama FRIM**
30 April, 11 & 12 Jun, 21 & 22 November 2024

- **Bengkel Penyelarasan Data**
12 September 2024

Usaha-usaha ini telah merancang aspek teknikal bagi projek berkenaan, memperhalus input dan mengesahkan dapatan untuk memperbaiki hala tuju teknikal di samping meningkatkan kerjasama di antara pemegang taruh.

- **Lawatan ke Stesen Penyelidikan FRIM (SPF) di Hutan Simpan Pasoh**
26 September & 11 November 2024

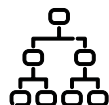
Lawatan tersebut telah diadakan untuk mengenal pasti lokasi terbaik untuk memasang penderia IoT dan memantau proses pemasangan. Langkah ini merupakan satu detik penting dalam memajukan pelaksanaan pemantauan berasaskan IoT untuk PBD.

Sebuah program tiga-fasa secara menyeluruh telah diadakan yang melibatkan Latihan Asas, Pembangunan dan Penggunaan.

Pada tahun ini, fasa latihan pembangunan telah membekalkan peserta dengan pengetahuan dan kemahiran teknikal yang relevan kepada projek tersebut. Sesi tersebut telah dijalankan dengan kerjasama UTM dan UPM untuk memastikan bahawa arahan dan pengetahuan disampaikan dengan baik seterusnya meningkatkan pembinaan keupayaan dalam kalangan pemegang taruh.



11
modul latihan



14
organisasi



89
peserta



Pegawai botani FRIM memberi penerangan tentang kaedah pengelasan spesimen herbarium kepada ahli kumpulan teknikal PBD

- **Proses Pendigitalan**
Menjelang akhir 2024,



2,800
spesimen
serangga daripada
3 genus (*Papilio*,
Orientopsaltria,
Chremistica)



6,000
spesimen
herbarium
daripada 2 famili
(*Burseraceae*,
Dipterocarpaceae)



4,000
imej perangkap
kamera dengan 39
spesis vertebrat yang
dikenal pasti melalui
imej tersebut.

Perkembangan yang signifikan telah dicapai melalui pembangunan model AI dan pemasangan sistem IoT yang lengkap. Dengan adanya infrastruktur utama, fasa seterusnya akan dimulakan pada tahun 2025 di mana robot dan dron akan digerakkan untuk mengumpul data baharu dan meningkatkan kepintaran sistem. Simulator ekologi akan menjana pemahaman yang bernilai untuk pengurusan biodiversiti, manakala aplikasi baharu akan meningkatkan lagi impak. Teknologi maju akan terus diperhalusi dan diintegrasikan pada masa hadapan untuk memacu inovasi dan memastikan pendekatan yang lebih berkesan dan mampan dalam memelihara ekologi Malaysia.

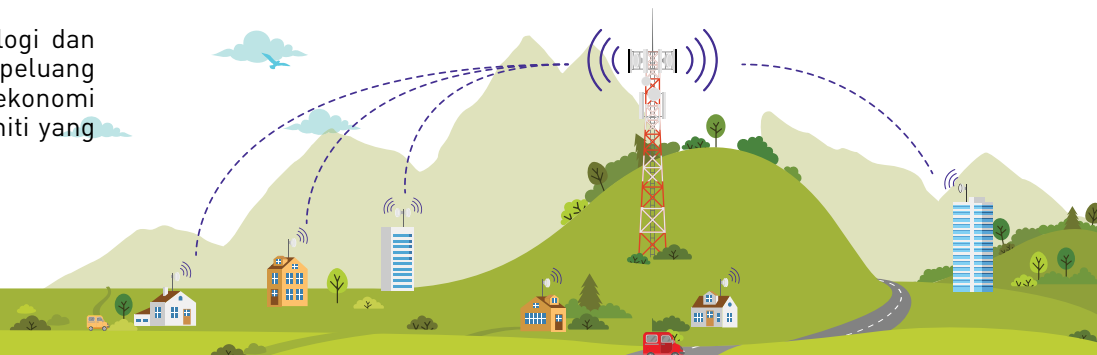
Wireless Bridging System

Wireless Bridging System (WBS) merupakan salah sebuah inovasi yang diterajui oleh ASM bertujuan meluaskan keterkaitan internet kepada komuniti ketinggalan dan terbatas, khususnya untuk aktiviti pengajaran dan pembelajaran (PdPR) dan e-keusahawanan. Inisiatif tersebut melengkapi usaha kerajaan untuk merapatkan jurang digital dalam kawasan luar bandar melalui teknologi yang menggunakan sumber sedia ada untuk meluaskan kawasan liputan dan kelajuan akses.

Susulan daripada Pembuktian Konsep (PoC), WBS telah dipasang di Sekolah Kebangsaan Simbuan Tulid di Keningau, Sabah di bawah Ekonomi MADANI: Inisiatif Memperkasa Rakyat. Tempoh pelaksanaan yang cepat (dalam tempoh setahun, dari Oktober 2023 hingga Oktober 2024) termasuk fasa pembuktian telah menunjukkan potensi sistem tersebut dalam melengkapi azam kerajaan untuk mencapai 100% liputan jalur lebar mudah alih menjelang tahun 2025 dan menawarkan penyelesaian yang pantas dan mampu milik untuk menaik taraf capaian internet dalam kawasan terpencil.

Sebagai perancangan masa hadapan, peluasan akses kepada teknologi dan maklumat harus menjadi tumpuan utama. Usaha ini akan membuka peluang untuk pembelajaran dalam talian dan merangsang pertumbuhan ekonomi setempat melalui keusahawanan digital, seterusnya memupuk komuniti yang lebih inklusif dan saling terkait.

Pemasangan WBS di Keningau, Sabah telah memberi manfaat kepada:



Sesi Perluasan Capaian Internet Wireless menggunakan teknologi Sistem *Wireless Bridging* bersama MOSTI, ASM, rakan strategik dan komuniti setempat



Dua Bridge (penghantar) yang dipasang di sekolah bagi menghubungkan internet ke kedai koperasi dan rumah-rumah penduduk kawasan Simbuan, Tulid, Keningau



Lokasi *Access Point* yang menghubungkan internet sehingga tadika dan makmal serta kawasan belakang sekolah



Inisiatif ArtScience™ telah ditubuhkan pada tahun 2019 untuk menggabungkan seni dan sains seterusnya memupuk kreativiti dan inovasi di Malaysia. Inisiatif tersebut juga bertujuan meningkatkan kemahiran dan pengetahuan dalam amalan lestari dan kreatif di samping menggalakkan usaha-usaha pembudayaan bidang kesenian dan saintifik.

Untuk menggalakkan ekosistem ArtScience™ yang aktif, sebuah program dwitahunan iaitu ASM ArtScience™ Prize telah diadakan selari dengan bidang keutamaan budaya dan sekitaran Malaysia yang mengiktiraf karya dan projek yang mencerminkan objektif ini.

Beberapa aktiviti yang bertujuan mencetus pengalaman amali dan memupuk kolaborasi antara disiplin telah diadakan:

ASM ArtScience™ Bamboo Workshop 1: Ideation and Understanding **3-4 Januari 2024**

Bengkel ini telah memperkenalkan peserta kepada buluh sebagai bahan yang lestari. Aktiviti seperti ceramah oleh pakar jemputan dan lawatan ke FRIM telah diadakan.

Sesi Rangkaian dan Pendedahan Multimedia **12 November 2024**

Sesi yang diadakan dengan kerjasama Malaysia Digital Economy Corporation (MDEC) telah menjalinkan peserta dengan pakar industri, seterusnya meningkatkan kemahiran mereka dari segi media dan teknologi digital.

ASM ArtScience™ Bamboo Workshop 2: Model Making and Practical Application **16-18 November 2024**

Peserta telah meningkatkan kemahiran mereka menerusi penghasilan model skala menggunakan buluh dan meneroka pelbagai kegunaan bahan tersebut.

Digital Art Intensive Training Session **28-30 November 2024**

Program yang berlangsung selama tiga hari ini bertujuan melatih peserta dalam kemahiran seni digital terkini dan memupuk inovasi dalam multimedia.



WEHAB++

Bengkel *Beyond COVID-19: Innovating for the Next Pandemic*

ASM, Monash University Malaysia dan Crowell & Moring International telah menganjurkan bengkel *Beyond COVID-19: Innovating for the Next Pandemic* pada 5 April 2024.

Bengkel tersebut telah diselenggarakan oleh Jawatankuasa Kesihatan WEHAB++, termasuk 11 orang pakar ASM daripada SIG COVID-19 dan Zoonosis. Bengkel tersebut telah mengiktiraf Kertas Posisi COVID-19 2021 ASM sebagai sumber rujukan utama semasa bengkel tersebut. Bengkel tersebut turut disokong oleh Pfizer (Malaysia) Sdn Bhd.

Bengkel tersebut menampilkan pakar-pakar dalam bidang kesihatan dari sektor kerajaan, akademik, swasta dan masyarakat awam untuk membincangkan strategi dan cadangan untuk memperkasa kesediaan pandemik dan ketahanan sistem kesihatan di Malaysia. Pengerusi Kertas Posisi ASM COVID-19, Profesor Dr Rosnah Mohd Zain FASc, telah menekankan kepentingan membangunkan strategi yang boleh dilaksanakan melalui pendekatan melibatkan semua sektor untuk meningkatkan kesediaan dalam menghadapi pandemik di masa hadapan.

Bengkel tersebut turut mendapat input melalui sesi perbincangan mendalam untuk merangka strategi di samping mengenal pasti peranan pelbagai pemegang taruh dan pemboleh daya utama dalam rangka kerja. Cadangan yang telah diperolehi semasa bengkel tersebut akan dimasukkan ke dalam sebuah kertas putih untuk dipertimbangkan oleh Kementerian Kesihatan pada masa yang terdekat.



Para pakar membincangkan strategi dan cadangan memperkasa kesediaan pandemik dan ketahanan sistem kesihatan di Malaysia



Pertanian Kebersisan

Jawatankuasa Pertanian WEHAB++ dan Kumpulan Kerja Pertanian Kebersisan telah menganjurkan Bengkel Pertanian Jitu ASM 2024: Mengoptimumkan Penanaman Padi Melalui Pertanian Jitu pada 10 Disember 2024.

Bengkel tersebut telah disertai oleh seramai 60 individu daripada agensi kerajaan, akademik, industri dan komuniti pertanian untuk mengenal pasti cabaran dan peluang dalam menggunakan teknologi pertanian kebersisan dalam penanaman padi. Memandangkan Malaysia mengimport 30% beras untuk memenuhi keperluan domestik, meningkatkan hasil padi per hektar adalah penting untuk memastikan keterjaminan makanan negara.

Perbincangan yang diadakan termasuk mengenal pasti halangan, jurang pengetahuan dan laluan strategik dalam pelaksanaan pertanian kebersisan secara berkesan. Para peserta telah berkongsi pandangan dalam memajukan penerimaan teknologi dalam penanaman padi di samping menekankan peningkatan hasil dan kelestarian.

Cadangan daripada bengkel tersebut akan dikumpul dan dibentangkan kepada kementerian yang berkenaan untuk pertimbangan dan tindakan.



Dialog Meja Bulat: Kesan Rundingan Perubahan Iklim ke atas Malaysia

Jawatankuasa ASM WEHAB++ Perubahan Iklim dan Pengurangan Risiko Bencana (CCDRR), di bawah kepimpinan Profesor Joy Jacqueline Pereira FASc, telah menganjurkan dialog meja bulat bertajuk 'Dialog Meja Bulat ASM mengenai Implikasi Perkembangan Global terhadap Perubahan Iklim di Malaysia' pada 6 Mei 2024. Dialog ini menghimpunkan pakar perubahan iklim dan pemegang taruh utama, termasuk wakil daripada Khazanah Research Institute dan Third World Network, bagi membincangkan hala tuju dalam memperkukuh kedudukan Malaysia dalam rundingan perubahan iklim global.

Dialog ini mengupas risiko perubahan iklim daripada aspek fizikal dan transisi serta implikasinya yang lebih luas, termasuk dinamik perdagangan, dengan memberi tumpuan kepada jurang pengetahuan dan strategi untuk menanganinya demi menyokong penggubalan dasar yang bermaklumat di peringkat global, nasional, negeri dan tempatan. Fokus utama adalah terhadap Malaysia, walaupun persamaan dan perbezaan dengan kumpulan negara lain seperti ASEAN, China/G77, Negara Membangun yang Sehaluan (LMDC), dan Negara-Negara Pulau Kecil Berkembang (SIDS) turut dibincangkan. Input daripada dialog ini telah disalurkan kepada NRES.

Bagi langkah seterusnya, perincian kerja isu-isu perubahan iklim perlu dikenal pasti, dengan ASM sebagai platform bebas dan berkecuali yang menghimpunkan saintis dan pengamal daripada pelbagai disiplin dan sektor untuk menangani jurang pengetahuan dalam Komunikasi Kebangsaan dan Laporan *Biennial Update Reports* (BUR), serta memperkukuh penyelarasan pasukan perunding melalui peningkatan pengetahuan dan penglibatan pakar bidang dalam isu-isu berkaitan.



Dialog Meja Bulat ASM mengenai Implikasi Perkembangan Global terhadap Perubahan Iklim di Malaysia

Kajian Kebolehlaksanaan Pemprosesan Daging Kultur dan Makanan Berasaskan Sel di Malaysia

Mesyuarat Jawatankuasa Kabinet Mengenai Dasar Sekuriti Makanan Negara telah diadakan pada 13 Jun 2024, di mana KKM telah membentangkan kertas cadangan bertajuk 'Cadangan Penetapan Dasar Pengeluaran dan Penjualan Daging Kultur serta Produk Daging Kultur dan Makanan Berasaskan Sel di Malaysia'. Mesyuarat telah memutuskan agar satu kajian kebolehlaksanaan dijalankan bagi meneliti dan menilai potensi serta kebolehlaksanaan pengeluaran daging kultur, produk daging kultur, dan makanan berasaskan sel sebagai sumber alternatif kepada daging di Malaysia secara usaha sama antara KPT dan MOSTI.

Sehubungan itu, MOSTI telah memandatkan ASM untuk melaksanakan kajian kebolehlaksanaan tersebut. Satu Pasukan Petugas Pro-Tem bagi Kajian Kebolehlaksanaan Daging Kultur telah diselaraskan oleh Jawatankuasa Pertanian WEHAB++ ASM yang dipengerusikan oleh Profesor Dato' Dr Zulkifli Idrus FASc. Pasukan ini telah mengadakan bengkel pada 14 Ogos 2024 bagi membincangkan dan memuktamadkan sub-projek awal untuk dimasukkan ke dalam cadangan kajian kebolehlaksanaan yang lebih terperinci. Bengkel tersebut telah dihadiri oleh 32 peserta daripada pasukan projek yang terdiri daripada pakar dari UPM, UTM, USM, Taylor's University, Cell-AgriTech Sdn Bhd, JAKIM serta kementerian-kementerian berkaitan untuk membangunkan cadangan bagi:

- Menjalankan kajian permintaan pasaran dan landskap persaingan daging kultur di Malaysia;
- Menilai keperluan teknikal dan kebolehlaksanaan pengeluaran daging kultur;
- Menilai daya maju kewangan dan ekonomi pengeluaran daging kultur melalui analisis kebolehlaksanaan yang komprehensif, termasuk mengenal pasti serta menilai risiko yang berkaitan, dan menjalankan penilaian impak ekonomi;
- Menjalankan analisis komprehensif berkenaan piawaian keselamatan makanan dan peraturan di Malaysia, dengan fokus kepada pembangunan dan cadangan rangka kerja kukuh untuk pengawalseliaan, pensijilan dan pelabelan daging kultur;
- Menentukan faktor sosio-psikologi dalam penerimaan pengguna Malaysia terhadap daging kultur;
- Menilai kelestarian dan impak alam sekitar pengeluaran daging kultur melalui perbandingan kecekapan sumber berbanding pengeluaran daging konvensional; dan
- Mengenal pasti risiko berpotensi dan strategi mitigasi bagi pengeluaran daging kultur.

Dengan penambahbaikan lanjut hasil maklum balas dan cadangan daripada Mesyuarat STIPAC ASM ke-64 yang diadakan pada 29 Ogos 2024, cadangan tersebut telah dikemukakan kepada KE pada akhir Disember 2024.



Profesor Dato' Dr Zulkifli Idrus FASc membentangkan dapatan beliau berkenaan Kebolehlaksanaan Pemprosesan Daging Kultur dan Makanan Berasaskan Sel di Malaysia



Pemulihan dan Pemuliharaan Gamat Emas

Program Pemulihan dan Pemuliharaan Gamat Emas yang dijalankan dari tahun 2023 hingga 2026 bertujuan menghasilkan solusi yang mampan kepada industri gamat dan komuniti setempat. Program tersebut merangkumi tiga projek: Pembiakan dan Pemulihan, Inovasi Sosial Untuk Produk Berasaskan Gamat Emas dan Pemulihan Ekosistem. Usaha-usaha tersebut bertujuan untuk menyeimbangkan pemeliharaan ekologi dengan inovasi ekonomi di Langkawi.

Pada 18 November 2024, program Pemulihan dan Pemuliharaan Gamat Emas (*Stichopus horrens*) telah memperoleh pencapaian pertama menerusi pelepasan Gamat Emas muda di perairan Langkawi.

Pada tahun 2025, program ini menyasarkan penubuhan tempat penetasan untuk membiakkan Gamat Emas di Langkawi, seterusnya memacu inovasi dalam pembangunan produk baharu seperti farmaseutikal nilai tinggi.

Dalam jangka masa panjang, program ini menyasarkan peningkatan populasi Gamat Emas di perairan Langkawi demi meningkatkan pendapatan komersial industri dan memberi manfaat kepada penduduk setempat. Program ini juga akan menyokong pemeliharaan warisan tradisi Langkawi dan dijangka akan membawa peningkatan kepada pertumbuhan sektor pelancongan.



Dr Abe Woo Sau Pinn dan Profesor Dato' Dr Aileen Tan Shau Hwai FASc melepaskan juvenil Gamat Emas ke perairan Langkawi yang telah ditetapkan

Platform Sains Terbuka Malaysia

Sejak pelancaran Platform Sains Terbuka Malaysia (MOSP) pada 16 Mei 2023, inisiatif ini kekal menerajui pergerakan sains terbuka di Malaysia dengan meningkatkan kebolehcapaian dan ketelusan penyelidikan Malaysia melalui kesalinghubungan repositori kebangsaan. MOSP turut menyokong ekosistem penyelidikan negara dengan meningkatkan kebolehan pengelola data, menambahbaik amalan perkongsian data penyelidikan dan memupuk kesedaran sains terbuka dalam kalangan masyarakat di samping patuh kepada prinsip FAIR (*Findable, Accessible, Interoperable, Reusable*).

Latihan

a. Data Stewardship on Open Science Training

Kohort 1/2024: 29 April – 22 Julai 2024

(49 pengelola data)

Kohort 2/2024: 12 Ogos – 4 November 2024

(27 pengelola data)

b. Introduction to Open Science Training with the National Institutes of Health (NIH)

2 – 3 Julai 2024 - Memperkenalkan elemen sains terbuka seperti data terbuka, akses terbuka, metrik terbuka dan sains masyarakat kepada pegawai penyelidik di NIH.

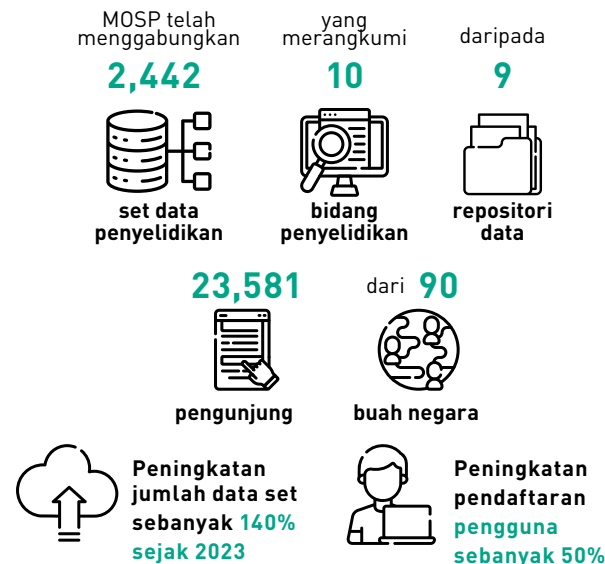
(40 pegawai)

c. Data Stewardship Training with Universiti Malaysia Kelantan (UMK) Library

1 – 2 September 2024 – Pustakawan dari UMK telah diberi latihan amali dalam menguruskan data dan menyediakan pelan pengurusan data untuk memperkukuh amalan penyelidikan dan perkongsian data.

(20 pustakawan)

Sehingga kini, **seramai 337 pengelola data telah dilatih.**



Di peringkat antarabangsa, Malaysia menerusi MOSTI dan ASM telah membentangkan konsep APECOSA semasa Forum Policy Partnership on STI (PPSTI) APEC. APECOSA telah dikemukakan sebagai platform untuk ekonomi APEC berkongsi amalan terbaik sains terbuka dan meningkatkan akses kepada ilmu saintifik serantau.



Pengerusi Jawatankuasa Teknikal MOSA, Profesor Madya Dr Liew Chee Sun, dan Pengurus Data yang diiktiraf, Dr Zubaidah Iberahim, semasa Latihan Pemantauan Data bersama UMK



Malaysia Science Endowment

Kebergantungan kepada dana kerajaan untuk menjalankan R&D dalam jangka masa panjang pada peringkat kebangsaan merupakan suatu tindakan yang tidak mampan. Peranan memacu pembangunan negara bukan lagi sebuah usaha kerajaan semata-mata, tetapi juga perlu dijalankan oleh sektor swasta dan industri. Belanjawan 2025 telah memperuntukkan RM170 juta kepada *Malaysia Science Endowment* (MSE) yang diteraju oleh ASM untuk menunjukkan impak dan membina keyakinan orang ramai dalam meningkatkan dana endowmen yang akan menjana sumber kewangan berkekalan bagi pembangunan STIE negara.

MSE mengguna pakai pendekatan pendanaan bersifat ke hadapan, untuk memenuhi keperluan sumber secara mampan bagi projek RDICE berorientasikan misi berjangka panjang yang melibatkan sektor swasta dan industri. Pendekatan tersebut dipraktikkan melalui mekanisme padanan dana dalam nisbah 50:50 antara sektor swasta dan industri.

Peruntukan fiskal daripada Belanjawan 2025 akan disalurkan kepada pelaksanaan sekurang-kurangnya 11 projek RDICE berimpak tinggi di seluruh negara. Antara projek tersebut, lima buah program berorientasikan misi yang dipacu industri akan menyokong sektor-sektor utama, seperti elektrik dan elektronik, hidrogen hijau, minyak dan gas, perkhidmatan rel, aero angkasa, keselamatan makanan dan kesihatan. Tambahan lagi, enam buah program RDICE antarabangsa akan melibatkan 17 buah negara, seterusnya menggalakkan penyelidikan dan pembangunan R&D secara kolaboratif yang akan membawa kebaikan kepada ekonomi dan sosioekonomi Malaysia dan negara-negara tersebut.

Penglibatan:

1. Dua sesi Bengkel Permukiman MSE bersama kementerian, agensi kerajaan, pemimpin industri, pertubuhan profesional, modal teroka dan ahli akademik.
2. Bekerjasama dengan industri semikonduktor, Collaborative Research in Engineering, Science and Technology (CREST), USM dan Malaysian Institute of Microelectronic Systems (MIMOS) untuk menghasilkan sebuah program RDICE berorientasikan misi dalam usaha membangunkan keupayaan tempatan dalam pembungkusan pintar (*advanced packaging*).
3. Perbincangan dengan Malaysia Petroleum Resourced Corporation (MPRC) dan Malaysia-Thailand Joint Authority (MTJA) untuk menyokong sektor Perkhidmatan dan Peralatan Minyak dan Gas (OGSE).
4. Bekerjasama dengan pemain utama seperti GUIDE, CRADLE dan Leave a Nest untuk merangka strategi yang memudahcara perkongsian dengan syarikat permulaan dan modal teroka, seterusnya menyokong ekosistem yang berinovasi.
5. Bekerjasama dengan British Council untuk padanan dana antara MSE dan *United Kingdom's International Science Partnership Fund* (ISPF) pada bulan Januari 2024.



Sepanjang tahun 2024, ASM telah menerokai perluasan capaian global ke 17 buah negara melalui platform multilateral seperti *Southeast Asia-Europe Joint Funding Scheme* dan *e-Asia Joint Research Programme*

ASM Chapters

ASM Chapters ditubuhkan bagi menggerakkan Jaringan Pakar ASM secara lebih efektif serta berperanan sebagai platform untuk menyumbang kepada negara. Chapters terdiri daripada Felo ASM, penerima TRSM, ahli YSN-ASM dan ASM Associates di setiap rantau. Mereka merupakan penggerak program dan inisiatif kebangsaan dan selaras dengan misi ASM untuk membudayakan sains di Malaysia. Oleh itu, Chapters telah menjalankan pelbagai program yang menyasarkan pelajar dan masyarakat.

Program Pendidikan Alam Semulajadi Berasaskan Cendawan

Program Pendidikan Alam Semulajadi Berasaskan Cendawan telah diadakan di Taman Bukit Tawau dari 12 hingga 14 November 2024.



80
pelajar

17
guru

100
staf

Melalui aktiviti amali dan sesi pendidikan, program ini telah memperkasakan peserta untuk menjadi penyokong proaktif dalam usaha pemuliharaan biodiversiti di samping memberi kesedaran tentang peranan cendawan dalam ekosistem. Peserta juga telah mempelajari kepentingan menjaga habitat semula jadi di Sabah dan kawasan-kawasan lain. Melalui program ini, peserta telah meningkatkan kemahiran kepimpinan, kerjasama dan sokongan alam sekitar yang seterusnya melatih mereka untuk menjadi pengelola alam semula jadi pada masa hadapan.

Para pelajar menyertai aktiviti amali semasa Program Pendidikan Alam Semulajadi Berasaskan Cendawan

ideaXchange

• ideaXchange ke-39: 'Positioning Northern Corridor as a Hub of Global Smart Technologies'

telah diadakan pada 8 Mei 2024 di Northern Corridor Implementation Authority (NCIA), Pulau Pinang. Inisiatif tersebut telah mengumpul pemegang taruh utama untuk membincangkan isu dan cabaran yang dihadapi industri di Pulau Pinang, terutamanya dalam sektor elektrik dan elektronik. Dialog tersebut bertujuan untuk meningkatkan potensi rantau tersebut sebagai hab teknologi pintar global, menjana inovasi dan pertumbuhan strategik.



Sesi perbincangan berkenaan isu dalam sektor elektrik & elektronik terhadap industri di Pulau Pinang

• ideaXchange ke-40: 'Creating the Ecosystems to Position Malaysia as the Business and Services Hub for the Region'

telah diadakan pada 12 Jun 2024 di UTM, Johor. Program tersebut tertumpu kepada pembangunan ekosistem perniagaan dan perkhidmatan yang mampan berdasarkan kajian kes hab perniagaan dan perkhidmatan yang berjaya dari rantau lain yang boleh dijadikan iktibar dalam konteks negara Malaysia. Perbincangan yang diadakan termasuk perancangan strategik, cadangan dasar serta kerjasama industri untuk memperkukuh peranan Malaysia sebagai hab perniagaan dan perkhidmatan serantau.



KPE ASM menyampaikan pandangan dalam sesi perbincangan forum

Program Ceramah Kerjaya

Program Ceramah Kerjaya telah diadakan pada 14 Oktober 2024 dengan kerjasama Chapter Sabah ASM dan UMS. Program tersebut bertujuan mendedahkan pelajar sekolah menengah kepada pelbagai kerjaya dalam bidang sains, teknologi, kejuruteraan dan matematik (STEM) dan memberi motivasi kepada mereka untuk mempertimbangkan bidang STEM apabila mereka melanjutkan pelajaran kelak.

Program ini telah membekalkan peserta dengan pengalaman secara langsung dalam bidang STEM dan mereka berpeluang untuk mengaplikasikan konsep yang dipelajari dalam bilik darjah atau melalui media digital. Program Ceramah Kerjaya ini menekankan komitmen Chapter Sabah ASM bersama rakan strategik dalam usaha memupuk generasi baharu pakar STEM serta budaya ingin tahu dan inovasi saintifik dalam kalangan pelajar di Sabah.



133
pelajar



7
sekolah
Kota Kinabalu

Pelajar melibatkan diri dalam aktiviti hands-on berkaitan STEM semasa Program Ceramah Kerjaya



Pelan Hala Tuju Transformasi Air 2040



Timbalan Perdana Menteri menyampaikan ucapan sempena Peluncuran Pelan Hala Tuju Transformasi Air 2040

Pelan Hala Tuju Transformasi Air 2040 (AIR 2040) merupakan agenda nasional untuk mentransformasi sektor air menjadi sektor ekonomi mampan yang mampu menyumbang secara signifikan kepada keluaran dalam negara kasar (KDNK) negara, membekalkan air bersih, berkualiti dan mampu milik kepada rakyat, menyediakan peluang pekerjaan dan memajukan pembangunan STIE. Pelan hala tuju tersebut akan dilaksanakan selama 20 tahun dengan empat fasa di bawah RMKe-12 hingga RMKe-15. AIR 2040 telah dilancarkan oleh Timbalan Perdana Menteri, YAB Dato' Sri Haji Fadillah Haji Yusof pada 29 Oktober 2024.



- **Mempergiat penerimgunaan Pengurusan Sumber Air Bersepadu (IWRM)**



- **Membangunkan teknologi tempatan yang setanding dengan standard antarabangsa**



- **Mencapai ekonomi skala**



- **Menjadi hab industri air serantau**

Forum yang bertajuk, “Towards Empowering the Water Sector to Ensure People’s Well-being” turut diadakan di majlis yang sama. Sesi tersebut menampilkan enam ahli panel yang membincangkan isu-isu seperti integrasi teknologi pintar dalam pemantauan sumber air, pencemaran air dan kepentingan kerjasama awam-swasta dalam memesatkan inisiatif yang digariskan dalam AIR2040.

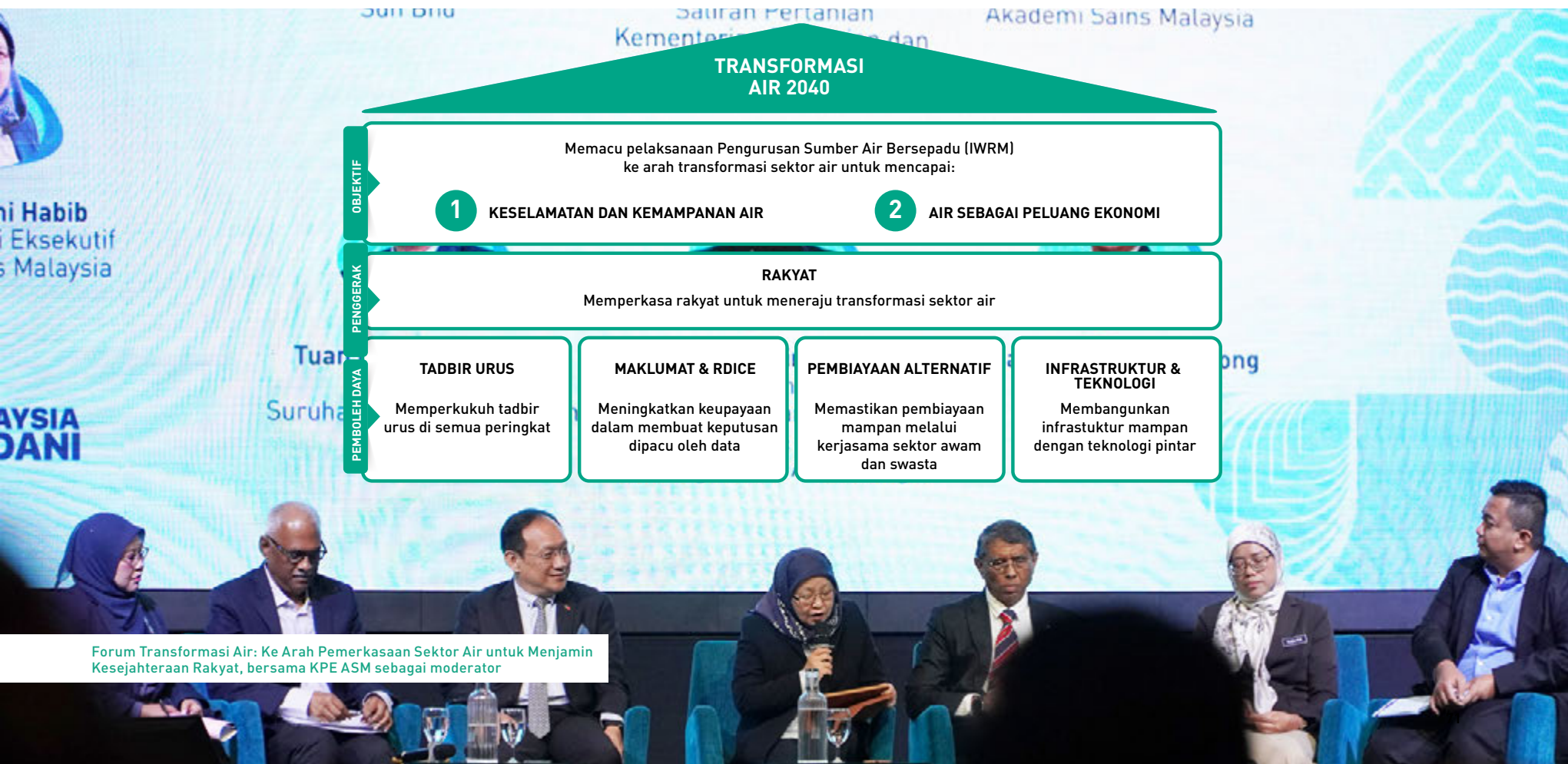
Kerajaan bercadang untuk menerima bidaan daripada sektor swasta sebagai solusi kewangan alternatif untuk mengurangkan beban kerajaan dalam menangani masalah air tidak berhasil (NRW).

“Menjelang tahun 2040, Malaysia beraspirasi menjadi hab air untuk rantau ASEAN. Untuk merealisasikan visi ini, Malaysia akan menjadi pusat rujukan global untuk penyelidikan dan pembangunan, inovasi, dan pembangunan bakat dalam sektor air.”

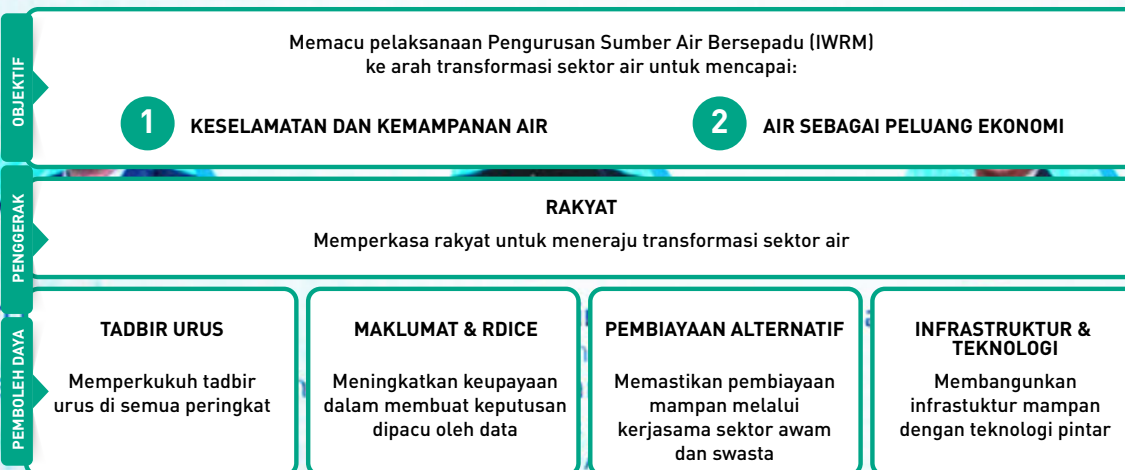
**Timbalan Perdana Menteri,
YAB Dato’ Sri Haji Fadillah Haji Yusof**

“Transformasi sektor air negara boleh memanfaatkan pendekatan berorientasikan misi dengan mengenal pasti cabaran perdana sektor air, menentukan misi utama, menarik sokongan dan penglibatan aktif daripada semua pihak berkaitan seperti pihak kementerian dan agensi, kerajaan negeri, industri tempatan, akademik dan komuniti untuk melaksanakan projek misi utama secara kolaboratif.”

Presiden ASM, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc



TRANSFORMASI AIR 2040



Forum Transformasi Air: Ke Arah Pemerkasaan Sektor Air untuk Menjamin Kesejahteraan Rakyat, bersama KPE ASM sebagai moderator

MENYATUKAN ILMU, MASYARAKAT & MASA HADAPAN





Young Scientists Network

Young Scientists Network (YSN-ASM) menerapkan kerjasama merentas disiplin, pengaruh dasar dan pembinaan kapasiti untuk menyelesaikan masalah dan membentuk ekosistem STI dan pengetahuan saintifik masa hadapan negara dengan mewakili suara saintis muda Malaysia.

Penglibatan YSN-ASM dalam NSC

YSN-ASM telah memainkan peranan penting dalam membentuk konsep dan isi kandungan NSC. Penglibatan mereka memastikan pertandingan sains tersebut selaras dengan perkembangan dalam pendidikan STEM pada masa kini dan yang akan datang, di samping menginspirasi generasi baharu saintis, inovator dan pemikir.

1. Membangunkan soalan dan modul yang berimpak tinggi untuk menguji kemahiran pelajar dalam konsep sains asas serta keupayaan pemikiran analitik, penyelesaian masalah dan komunikasi saintifik.
2. Berperanan sebagai mentor khusus kepada 20 pasukan finalis sepanjang penyertaan mereka di *STEM Camp*.



Profesor Madya Ts Dr Aslina Baharum sebagai salah satu mentor kepada pasukan finalis sepanjang *STEM Camp* NSC

Chrysalis Award YSN-ASM

Sebanyak 162 penyertaan telah diterima untuk *Chrysalis Award* YSN-ASM, 15 finalis terpilih untuk menyertai latihan khas di bawah program tersebut. Bertemakan "*Tomorrow's Leaders: Cultivating Innovation and Impact for Our Nations and Communities*", program tersebut telah mengetengahkan kepentingan memupuk pemimpin-pemimpin muda dalam STIE yang inovatif, bertanggungjawab dan komited untuk menghasilkan impak yang bermakna terhadap masa hadapan ekosistem STIE Malaysia.



Pemenang: Wong Li Wen (Monash University)

Revolutionising Diabetic Monitoring: A Natural Hydrogel Patch for Highly Efficient and Painless Glucose Sensing

"Harus ditekankan bahawa saintis muda memainkan peranan penting untuk Malaysia. Ketika ini, anggaran 30% daripada jumlah keseluruhan penyelidik Malaysia tergolong dalam kategori saintis muda. Ini mengukuhkan lagi peranan anda semua dalam membuka sempadan baharu inovasi."

YB Dato' Haji Mohammad Yusof Apdal
Timbalan Menteri MOSTI

Colloquium YSN-ASM

Pada 8 November 2024, *Colloquium* YSN-ASM telah menghimpunkan seramai 98 ahli dari seluruh negara. Program ini berfungsi sebagai sebuah platform strategik untuk ahli YSN-ASM menyumbang pandangan berharga ke arah memperkukuh komuniti saintifik Malaysia. Tema tahun ini, "*Innovate to Impact: Mission-Oriented Science for a Better Tomorrow*," telah membuka tirai kepada siri sesi yang menginspirasi dan berwawasan dalam usaha membentuk landskap saintifik Malaysia pada masa hadapan.

Melangkah ke hadapan, YSN-ASM berhasrat untuk memperkasakan peranan saintis muda dalam pembangunan dasar, terutamanya dalam ekosistem pendidikan dan RDICE, serta memperkukuh pengaruh mereka sebagai suara generasi muda saintis dan penyelidik di peringkat tertinggi dalam membuat keputusan, termasuk pengiktirafan di MSN dan seterusnya.

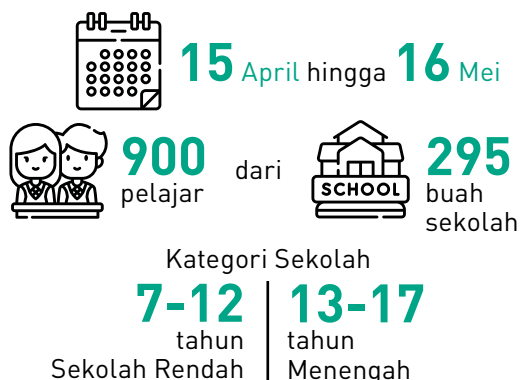


Detik-detik sepanjang *Colloquium* YSN-ASM

Minggu Sains Negara

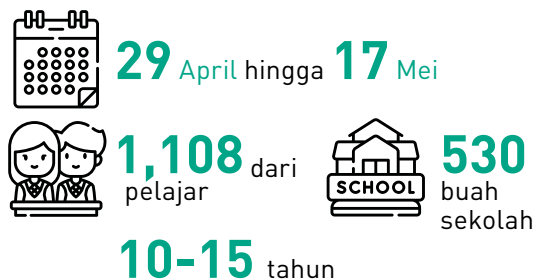
Ceritera ArtScience™

Ceritera ArtScience™ merupakan satu aktiviti sains yang telah dijalankan untuk menggalakkan penerokaan sains di rumah dengan menggunakan bahan-bahan semula jadi dan boleh dikitar semula. Menerusi tema “*Anyone can do Science: Natural Based Materials or Recyclable Materials*”, pelajar sekolah dikehendaki menghasilkan sebuah poster dan menerbitkan video sains yang menerangkan poster tersebut.



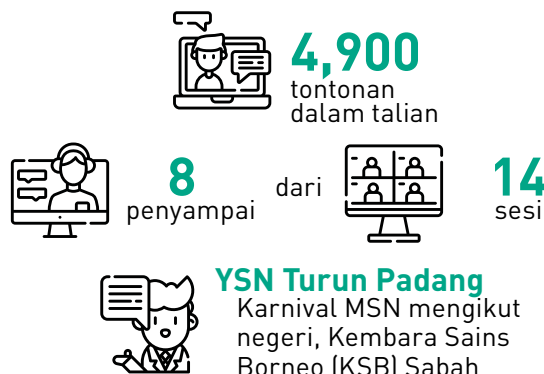
E-Games Kesihatan Planet

E-Games Kesihatan Planet bertujuan untuk meningkatkan pemahaman pelajar tentang konsep kesihatan planet dan menarik minat mereka terhadap bidang STEM melalui platform yang berbeza, di samping melahirkan generasi yang lebih peka terhadap persekitaran.



Borak Sains

Borak Sains bertujuan meningkatkan kesedaran tentang sains dengan merapatkan jurang antara masyarakat dan komuniti saintifik. Program ini memfokuskan penghasilan bual bicara berkaitan sains dalam Bahasa Melayu, merangkumi topik-topik yang kontemporari seperti fakta sains yang menarik, aktiviti STEM dan banyak lagi. Kandungan video juga digunakan sebagai rujukan untuk menyokong inisiatif utama lain, seperti YSN Turun Padang.



Modul Latihan IBSE

Pendidikan Sains Berasaskan Inkuiri (IBSE) dapat menggalakkan kanak-kanak untuk terlibat dalam penerokaan secara praktikal, eksperimentasi, sesi soal jawab dan pembelajaran berasaskan bukti. Pada 2024, Bengkel Pembangunan Modul IBSE telah dijalankan dengan kerjasama ISTIC-UNESCO, memfokuskan topik-topik yang berkaitan dengan Kesihatan dan Kimia.

Program latihan yang telah dijalankan ialah seperti berikut:

- Latihan IBSE untuk ahli-ahli dan affiliate YSN-ASM.
- Beberapa sesi latihan semasa NSC 2024 *STEM Camp*, merangkumi model 5E dan modul-modul IBSE YSN untuk guru.

Pembangunan modul ini masih dijalankan dan dijangka siap sepenuhnya pada tahun 2025. Pada masa akan datang, Bengkel Latihan IBSE akan dijadikan sebagai salah satu program iringan untuk melatih para pendidik di MSN 2025.

Penglibatan Antarabangsa

YSN-ASM telah memperkukuhkan penglibatan antarabangsa dengan mewakili Malaysia dalam dua program yang berprestij.

Science at the Shine Dome 2024 di Canberra, Australia

9-12 September

Dr Phan Chia Wei dan Profesor Madya Ts Dr Suganthi Appalasamy telah terlibat dalam Forum EMCR di bawah program ini. Forum tersebut membincangkan tentang perkembangan karier, kajian berkolaborasi, dan cabaran bersama dalam kalangan saintis Asia-Pasifik.

Science and Technology in Society (STS) Forum 2024 di Kyoto, Jepun

6-8 Oktober

Dr Ng Siew Kit telah mewakili saintis muda Malaysia dengan menyumbang kepada perbincangan berkenaan kemajuan AI, kepenggunaan penjagaan kesihatan, kejayaan bioteknologi dan kepercayaan saintifik.

**YOUNG SCIENTISTS
NETWORK
MALAYSIA**

Malaysian Code of Responsible Conduct in Research

Penyelidik Malaysia telah mendapat pengiktirafan dan penghormatan antarabangsa dengan mengekalkan piawaian yang tinggi melalui penyelarasan kualiti penyelidikan di peringkat antarabangsa. *Malaysian Code of Responsible Conduct in Research* (MCRCR) mengukuhkan integriti dan prinsip etika dengan menanamkan nilai-nilai ini sepanjang proses penyelidikan bagi memastikan kecemerlangan pada setiap peringkat.

Pada September 2024, ASM telah dijemput oleh UPM untuk menganjurkan kursus MCRCR selama sehari. Kursus ini telah dikendalikan oleh Dr Chau De Ming sebagai jurulatih dan dihadiri oleh 20 peserta dalam kalangan saintis dan penyelidik. Selepas kursus tersebut, peserta telah menjalankan proses penilaian untuk mengetahui sejauh mana pemahaman mereka mengenai subjek tersebut. Peserta yang lulus telah diberikan sijil yang sah untuk tempoh lima tahun.

Selain itu, *National Committee on Research Integrity* (NCRI) telah memulakan pembangunan kursus MCRCR dalam talian yang akan meningkatkan keterlihatan dan capaian kursus latihan MCRCR.

Tahun ini, tadbir urus NCRI telah diperkukuh dengan pelantikan ahli tetap daripada Kementerian Kesihatan (KKM), Kementerian Pengajian Tinggi (KPT) dan Institut Integriti Malaysia (IIM). Penglibatan mereka berpotensi untuk meluaskan lagi etos dan nilai MCRCR kepada komuniti saintifik dan penyelidikan di seluruh Malaysia.

Kursus Latihan MCRCR



170

penyelidik terlatih
daripada



4

institusi pengajian tinggi
dan penyelidikan



Dr Chau De Ming memberi pendedahan berkenaan pemahaman MCRCR kepada para peserta kursus

Imbas untuk
muat turun



10-10 MySTIE Technology Series and Innovation Kopitiam

Bagi memastikan penerimaan yang meluas terhadap inisiatif 10-10 MySTIE, ASM telah mengambil pendekatan pragmatik dengan memperkenalkan 10-10 MySTIE *Technology Series* dan *Innovation Kopitiam* sejak 2023. Pada 2024, dua siri telah diadakan bersempena dengan Jerayawara ASM 2024. Siri pertama untuk tahun 2024 telah berlangsung pada 8 Mei 2024 di NCIA, Pulau Pinang. Program ini telah menarik kehadiran lebih 800 peserta yang aktif melalui platform fizikal dan dalam talian.

Bertemakan *'The Next-Generation Semiconductor Industry: Smart Technology and Systems'*, siri ini mengetengahkan kepentingan mengenai kemajuan teknologi dan sistem pintar dalam ekosistem semikonduktor. Tema ini menekankan kepentingan tersebut dalam membentuk masa hadapan yang mampan di Malaysia kerana ia merupakan salah satu teknologi yang sedang berkembang di rantau ini.



Para panelis memberi perkongsian tentang kepentingan kemajuan teknologi dan sistem pintar dalam ekosistem konduktor



Imbas di
sini untuk
menonton



Barisan panelis membincangkan cabaran dan peluang berkaitan landskap dan teknologi memuncul



Imbas di sini
untuk menonton

Siri seterusnya telah diadakan di UTM pada 12 Jun 2024. Perbincangan bertemakan *'Enhancing National Digital Security through Cybersecurity and Blockchain Technologies'*. Tema ini telah menerima sambutan yang baik khususnya di Zon Ekonomi Khas Johor-Singapura yang tertumpu kepada sektor ekonomi digital.

Input yang diperolehi daripada perbincangan mengenai peluang dan cabaran berkaitan teknologi dan landskap memuncul akan digunakan dalam persiapan kertas strategi untuk RMKe-13 dan inisiatif 10-10 MySTIE *Transformation Book 2.0*. Kertas strategi ini akan menawarkan pendekatan menyeluruh bagi menampung keperluan segera untuk ekosistem STIE yang telah dipertingkatkan agar Malaysia dapat menjadi negara yang berdaya tahan dan makmur dengan melaksanakan strategi dan tindakan yang telah dicadangkan.



2
siri

lebih
daripada

800

peserta fizikal
dan dalam talian

FASciate

FASciate mempamerkan kepakaran dan perjalanan peribadi individu yang terdiri daripada Felo ASM, Associates, TRSM, dan ahli YSN-ASM, sebagai model inspirasi. Pencapaian dan kisah mereka memberi informasi dalam usaha untuk menuntut ilmu dan mencapai kecemerlangan dalam STIE.

• Impak

Menginspirasi Generasi Baharu Saintis dan Jurutera

Melalui kisah peribadi dan pencapaian yang disampaikan oleh Jaringan Pakar ASM, FASciate telah berjaya menginspirasi pelajar dan ahli profesional muda untuk menceburi bidang STIE. Latar belakang dan kepakaran penceramah FASciate juga membuktikan bahawa sumbangan berimpak tinggi dalam bidang sains boleh dicapai dalam pelbagai bidang.

• Hala Tuju Masa Depan

Mengadakan Siri Mini atau Podcast Bertema

Memperkenalkan siri mini atau podcast susulan yang mendalami topik-topik terpilih dan temu bual susulan bersama penceramah.

Siri pertama FASciate untuk tahun ini telah diadakan pada 17 Julai 2024, yang menampilkan pakar yang membincangkan topik seperti kelapa sawit, unsur nadi bumi (REE), kecerdasan buatan (AI) dalam biodiversiti dan teknologi kuantum. Topik menarik ini telah dirungkai dan memberi peluang kepada penonton untuk mengemukakan soalan kepada individu tersebut.



Dr Harikrishna Kulaveerasingam FASc
The Green Gold Quest: Perfecting Oil Palm Selection

Dato' Sia Hok Kiang FASc
Developing the REE Resources of Malaysia, an Integrated Approach



Professor Ts Dr Nurfaadhina Mohd Sharef
Defending Malaysia's Biodiversity with AI

Professor Dr Raymond Ooi Chong Heng FASc
Quantum Technology: Harnessing Entanglement, the Most Mind-Boggling Scientific Concept



Siri FASciate yang kedua telah berlangsung pada 19 Disember 2024 yang menampilkan pakar ASM dengan topik yang menarik seperti perjalanan mereka untuk menjadi seorang jurutera di Malaysia, dunia kulat zombi dan reformasi pendidikan fizik.



Dato' Ir Dr Dennis Ganendra FASc
From Petaling Jaya to the World: Malaysian Engineering Boleh!

Profesor Madya Dr Jaya Seelan Sathiya Seelan
Zombie Fungi: Don of Cure



Dr Muhammad Abd Hadi Bunyamin
Reforming Physics Teaching-How?

Imbas di sini untuk menonton



FASciate
Open Minds, Spark Ideas

Syarahan Nobel Laureate

Sejak 2001, Program Nobel Laureate Kebangsaan ASM telah mencapai kemajuan yang signifikan dalam memupuk kecemerlangan STI di Malaysia. Penglibatan aktif penerima Anugerah Nobel dalam membimbing dan mendidik komuniti saintifik tempatan telah memainkan peranan penting dalam mewujudkan persekitaran yang berkemampuan, progresif dan kompetitif di negara ini.

Sebagai sebahagian daripada inisiatif ini, 24 penerima Anugerah Nobel telah mengambil bahagian dalam pelbagai program di Malaysia. ASM dan rakan kongsi telah menganjurkan sebanyak 48 program termasuk syarahan umum, pembentangan saintifik dan sesi motivasi sains.

Tahun ini, Penerima Anugerah Nobel 2001 dalam Fisiologi atau Perubatan, Sir Paul Nurse, telah menyampaikan syarahan yang berinformatif merangkumi pengetahuan sains hayat yang luas. Program ini adalah anjuran ASM dan NIBM bertajuk "What is Life?" pada 24 Jun 2024.

Syarahan Edisi ke-25 Penerima Anugerah Nobel ini telah menampilkan Naib Presiden ASM, Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc sebagai moderator dan telah menarik minat peserta daripada sektor awam dan swasta, jaringan pakar, pensyarah, pelajar sekolah dan universiti serta orang ramai.



Sorotan utama program Syarahan Nobel Laureate

"Hayat yang kita ada adalah kompleks dan memahaminya adalah asas kepada tamadun kita dan dapat memajukan manusia."

**Sir Paul Nurse,
Penerima Anugerah Nobel**

Imbas di sini
untuk menonton



Penerbitan

ASM meneruskan usaha menjalinkan sains dan masyarakat melalui penerbitan berimpak tinggi. Pada tahun 2024, Unit Penerbitan ASM telah meluaskan jangkauan melepasi komuniti sains dalam usaha mempromosikan sains sebagai sebuah budaya yang dikongsi bersama. Melalui naratif yang mudah difahami dan menarik, penerbitan ASM mengetengahkan penemuan dan kepimpinan dalam pemikiran di samping memupuk sifat ingin tahu dan menggalakkan penglibatan dalam kalangan masyarakat menerusi program fizikal. Penerbitan ASM telah merayakan insan di sebalik pencapaian, menginsankan penemuan saintifik dan dedikasi, serta mengeratkan lagi hubungan antara sains dan masyarakat.

e-Penerbitan



Penerbitan
147 (sehingga 2024)



Pembaca
25,554



Capaian
135,018



Muat turun
16,656 dari 78 negara

Laporan

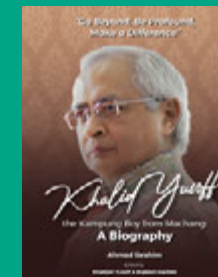


Laporan Tahunan 2023



Global Knowledge Dialogue: Asia-Pacific Region Full Report

Biografi



Khalid Yusoff, the Kampung Boy from Kampong A Biography

Manual dan Buku Panduan



Guidelines for FAIR Biodiversity Data Stewardship



Manual Specimen Digitisation for FAIR Biodiversity Data Stewardship



Manual: Specimen Database Management System (SDBMS) for FAIR Biodiversity Data Stewardship



Guidelines for FAIR Biodiversity Data Stewardship

Kajian



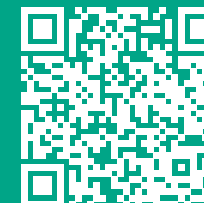
A New Horizon for Science, Technology, and Innovation – A Strategy to Enhance Higher Education in Malaysia



Nurturing Next-Generation Talent for Knowledge-Based, Values-Driven Development



Business Model for the Development of Ion-Adsorption Clay Rare Earths Industry in Malaysia



Imbas untuk membaca penerbitan kami

e-estidotmy

e-estidotmy ialah kompilasi artikel STEM, infografik, video dan aktiviti yang disasarkan kepada pelajar, guru dan ibu bapa. Sebagai portal sains popular dalam talian, e-estidotmy telah membuka reruai sepanjang Minggu Sains Negara yang berlangsung di enam negeri: Kelantan, Pulau Pinang, Perak, Perlis, Melaka dan Putrajaya sepanjang 2024.

e-estidotmy telah menerima sambutan yang baik oleh ribuan pengunjung yang terdiri daripada orang awam, ibu bapa, pendidik dan pelajar. Pengunjung telah mengambil bahagian dalam pelbagai aktiviti yang ditawarkan. Melalui penglibatan ini, e-estidotmy juga telah meningkatkan capaian digital menerusi pengunjung ke portal dan pengikut media sosial yang baharu.

Pada masa akan datang, e-estidotmy berhasrat untuk menambah baik kandungan dalam talian dengan penggunaan aplikasi TikTok di samping berusaha untuk berkembang dengan lebih baik sama ada dalam talian atau fizikal. Untuk menarik minat yang lebih banyak terhadap STIE, ASM sedang berusaha untuk melawat lebih banyak sekolah dan memperkenalkan e-estidotmy terus kepada pelajar dan guru. Dalam masa yang sama, dapat menghasilkan pembelajaran yang seronok, menarik dan penuh dengan peluang kolaborasi yang mengujakan.



kunjungan ke portal

53,106 +120% peningkatan
sejak 2023



pengikut Facebook

1,000 +18.06%
peningkatan



pengikut Instagram

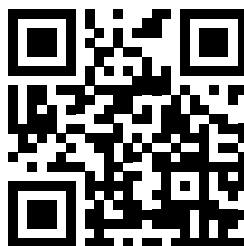
419 +61.15%
peningkatan



Pengikut X

298 +4.56%
peningkatan

e-estidotmy
Memperkaya Minda Dengan STEM



Imbas di sini
untuk ke portal
e-estidotmy



Reruai e-estidotmy yang menampilkan aktiviti berkaitan STEM di enam negeri menerima sambutan yang menggalakkan daripada pelajar, guru dan ibu bapa

ASM Science Journal

ASM Science Journal merupakan jurnal penyelidikan akses terbuka, disemak setara dan diindeks merangkumi pelbagai disiplin yang bertujuan untuk menyampaikan perspektif penyelidikan. Lebih daripada 1,000 artikel telah diterbitkan dalam ASM Science Journal sejak 2007. Jurnal ini telah beralih format daripada salinan bercetak kepada jurnal digital dan akses terbuka.

Skop



Perubatan



Kejuruteraan dan Teknologi



Bumi dan Alam Sekitar



Matematik



Fizik



Kimia



Biologi dan Pertanian



Teknologi Maklumat dan Komunikasi (ICT)



Polisi Berkaitan Sains



Bertindak sebagai forum yang menentang perspektif kajian yang signifikan.



Tiada cas pemprosesan artikel (Article Processing Charge - APC).



Dalam bentuk salinan bercetak sejak 2007; bentuk jurnal digital akses terbuka sejak 2017.



Semua artikel yang diterbitkan telah diedarkan di bawah *Creative Commons Attribution Non-commercial 4.0 International License (CC BY-NC 4.0)*.



Ahli Sidang Redaksi terdiri daripada pakar STI tempatan dan antarabangsa daripada pelbagai bidang.

Scopus* Tersenarai dalam *Top 10 Malaysian Journals* diindeks dalam Scopus.



Salah satu repositori kepada MOSP.



Jumlah penerbitan
1,107 sejak 2007

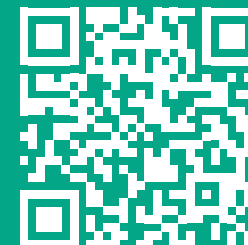


Jumlah lawatan
673,987 sejak 2017



H-Index
11

Think Science, Celebrate Technology, Inspire Innovation
ASM SCIENCE
JOURNAL
WWW.AKADEMISAINS.GOV.MY

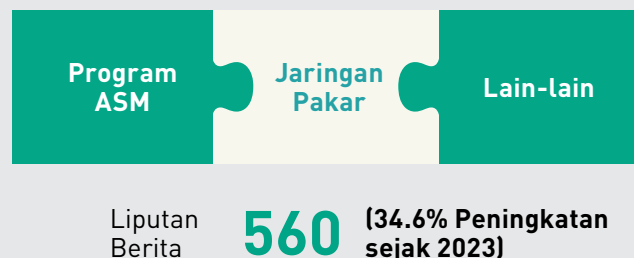


Imbas di sini untuk melawat
ASM Science Journal

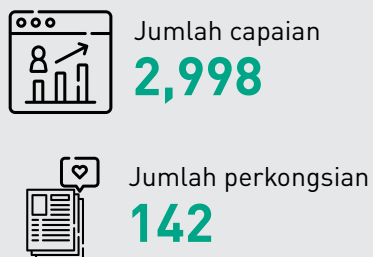
Komunikasi

Usaha komunikasi ASM tertumpu kepada menjadikan sains mudah diakses dan relevan kepada orang awam. Dengan memanfaatkan *podcast*, media sosial, lembaran fakta dan kandungan multimedia, ASM terus mempertingkatkan pemahaman masyarakat terhadap sains sambil memperluas kehadiran digitalnya. ASM juga mengekalkan kehadiran yang kukuh dalam media, dengan liputan yang meningkat terhadap isu nasional dan inisiatif ASM melalui Jaringan Pakar, sekali gus mengukuhkan keterlihatan agensi ini. Pendekatan ini memastikan ASM kekal sebagai sumber yang dipercayai dan relevan untuk semua pemegang taruh.

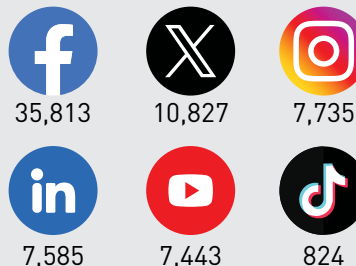
Liputan Media ASM



Lembaran Fakta ASM



Media Sosial ASM



Komuniti Media Sosial ASM
70,227
 (+7,789 berbanding tahun 2023)

Podcast ASM

3 episod dengan jumlah pendengar tertinggi:



Ep 39 – Inspirasi Saintis Muda YSN-ASM: Perasaan Ingin Tahu yang Mendorong kepada Kejayaan



Ep 35 - The Future of the Malaysian Creative Industry



Ep 42 - From Malacca to China, the 2023 National Science Challenge Winners' Journey



Saluran Youtube ASM



Warna-Warni Aidilfitri ASM
34 jam



Lecture on Acoustofluidics
32 jam



YSN-ASM Chrysalis Award 2023 Final Pitch
21 jam



Dalam Ingatan

Emeritus Profesor Dr Mak Joon Wah FASc

11 Disember 1942 - 26 Januari 2024

Mendiang Emeritus Profesor Dr Mak Joon Wah FASc merupakan seorang pakar yang tersohor dalam bidang parasitologi, perubatan tropika dan kesihatan awam. Setelah menamatkan pengajiannya, beliau menumpukan penyelidikannya ke arah memerangi penyakit berjangkit ketika itu, termasuk *malaria* yang mencatatkan sehingga 30,000 kes yang dilaporkan pada tahun 1970-an dan 1980-an, serta *filariasis*. Profesor Mak dan pasukannya berusaha tanpa mengenal erti penat lelah menjalankan dan menyertai pelbagai tinjauan di seluruh rantau ini, bekerja di lapangan di kawasan-kawasan yang terjejas seperti rancangan tanah Lembaga Kemajuan Tanah Persekutuan (FELDA), ladang getah dan penempatan Orang Asli.

Selain itu, Profesor Mak dan pasukannya telah memulakan kaedah penanaman parasit *filarial* (*Brugia malayi*) secara '*in vitro*' untuk memenuhi keperluan Pertubuhan Kesihatan Sedunia (WHO) dalam pembangunan ubat menentang *filariasis* dan *onchocerciasis*. Pencapaian yang sangat signifikan ini telah mendorong WHO untuk menganjurkan bengkel latihan pada tahun 1984 bagi menyebarkan teknik tersebut.

Kepakaran mendiang Profesor Mak dalam bidang *filariasis* dan *malaria* telah diiktiraf di peringkat antarabangsa, di mana beliau telah dilantik sebagai perunding WHO di 17 buah negara. Dedikasi dan sumbangan beliau dalam bidang ini telah meraih pengiktirafan global dan menyumbang kepada pelbagai kemajuan dalam sektor kesihatan awam di seluruh dunia. Profesor Mak juga merupakan tokoh penting dalam memajukan perubatan tropika di Malaysia, dan telah memegang jawatan kepimpinan dalam organisasi seperti Persatuan Kajiparasit Dan Perubatan Tropika. Sebagai pengiktirafan terhadap sumbangan beliau yang amat besar kepada sains dan masyarakat, beliau telah dianugerahkan dengan Anugerah Merdeka yang berprestij pada tahun 2011 dan Anugerah Sains Negara pada tahun 1985.

Legasi beliau terus memberi impak kepada kehidupan mereka yang terjejas dengan penyakit ini di dalam dan luar negara.





Dr Goh Swee Hock FASc

14 Oktober 1940 – 25 Mei 2024

Mendiang Dr Goh Swee Hock FASc merupakan seorang pakar terkemuka dalam bidang kimia organik, dengan pengkhususan dalam kimia lipid dan berfokuskan minyak sawit. Kecemerlangan saintifik beliau telah diiktiraf apabila beliau menerima Pingat Emas Institut Kimia Malaysia pada tahun 1994.

Beliau memegang jawatan akademik yang berprestij, termasuk Felo Kanan di Universiti Nasional Singapura (1995–2000) serta Pengerusi dan Profesor Kimia Organik di Universiti Malaya (1990–1995). Bidang penyelidikan beliau merangkumi produk semula jadi, penemuan ubat, bahan api bio, dan kimia sebatian bioaktif, dengan penekanan khas terhadap kandungan dalam minyak sawit.

Mendiang Dr Goh telah memainkan peranan penting dalam memajukan bidang kimia organik berkaitan minyak sawit, serta menyumbang secara signifikan kepada aplikasi industri dan alam sekitarnya. Sepanjang kerjayanya, beliau juga pernah berkhidmat sebagai profesor pelawat di institusi ternama seperti University of Melbourne dan Australian National University, selain terlibat dalam pelbagai lembaga penasihat dan editorial.

Legasi Dr Goh dalam bidang kimia organik dan penyelidikan minyak sawit akan terus memberi inspirasi kepada generasi akan datang.

Dalam Ingatan

Ir Dr Ting Wen Hui FASc
5 Jun 1936 – 23 Mei 2024

Mendiang Ir Dr Ting Weh Hui FASc merupakan seorang jurutera Malaysia yang terkemuka dan terkenal dengan kepakarannya dalam bidang kejuruteraan tanah, jalan raya serta geoteknik. Beliau merupakan rakyat Malaysia pertama yang memperoleh Ijazah Kedoktoran (PhD) dalam Kejuruteraan Geoteknik dari University of Cambridge, sekali gus menjadi pelopor dalam bidang ini.

Sepanjang kerjaya cemerlang beliau, pengetahuan dan pandangan mendalam Dr Ting amat dihargai. Beliau sering dijemput untuk menyampaikan ucap tama di pelbagai persidangan kebangsaan dan antarabangsa, di mana sumbangan beliau telah membentuk wacana dalam komuniti kejuruteraan. Kepimpinan beliau turut terserlah melalui pelbagai jawatan penting, termasuk sebagai Presiden Institusi Jurutera Malaysia (IEM) dari tahun 1995 hingga 1997.

Pada tahun 2013, Dr Ting telah menjadi Presiden Pengasas Persatuan Geoteknikal Malaysia (MGS), di mana beliau memainkan peranan penting dalam meletakkan asas bagi misi persatuan untuk memajukan pengetahuan geoteknikal dan menggalakkan kerjasama dalam kalangan para profesional.

Pencapaian cemerlang dan kepimpinan berwawasan mendiang Dr Ting telah meninggalkan legasi yang berkekalan, memberi impak besar dalam bidang akademik dan industri serta mengukuhkan kedudukan beliau sebagai perintis dalam dunia kejuruteraan.





Tan Sri Dato' Seri Haji Musa Mohamad FASc
29 November 1943 – 8 Jun 2024

Allahyarham Tan Sri Dato' Seri Haji Musa Mohamad FASc merupakan tokoh unggul yang memainkan peranan penting dalam membentuk sistem pendidikan Malaysia. Dengan lebih 20 tahun pengalaman dalam pengajaran dan pentadbiran akademik di USM, beliau meninggalkan impak yang besar. Sebagai Naib Canselor (1982–1995), beliau telah membangunkan universiti tersebut secara fizikal dan akademik, khususnya dalam bidang sains perubatan dan kejuruteraan. Kepimpinan visi beliau telah mentransformasikan USM menjadi antara institusi pengajian tinggi terkemuka di Malaysia, sekali gus meninggalkan legasi yang berkekalan dalam landskap pendidikan negara.

Tan Sri Musa juga pernah berkhidmat sebagai Pengerusi Lembaga Pemegang Amanah Dewan Bahasa dan Pustaka (DBP) (1983–1985). Komitmen beliau yang tidak berbelah bahagi terhadap pemeliharaan dan pemeriksaan bahasa kebangsaan telah membimbing DBP dalam melaksanakan program-program penting yang memperkukuh jati diri budaya dan bahasa negara. Selain itu, Tan Sri Musa mencatat sejarah sebagai individu bukan ahli politik pertama yang dilantik sebagai Menteri Pendidikan (1999–2004). Kepimpinan beliau amat penting dalam memajukan sistem pendidikan negara, memastikan institusi tempatan mencapai piawaian antarabangsa dan meletakkan asas bagi pertumbuhan jangka panjang serta daya saing global.

Sumbangan cemerlang Allahyarham Tan Sri Musa dalam bidang pendidikan dan sains telah mendapat pelbagai pengiktirafan sepanjang kerjayanya. Beliau telah dikurniakan beberapa ijazah kehormat daripada institusi ternama, termasuk USM, Universiti Multimedia (MMU), dan Universiti Malaysia Sabah (UMS). Khidmat bakti beliau turut dihargai menerusi penganugerahan pingat kebesaran persekutuan dan negeri, termasuk Panglima Setia Mahkota (PSM) pada tahun 1994, dimana gelaran 'Tan Sri' juga telah dikurniakan kepada beliau.

Legasi beliau terus memberi inspirasi kepada generasi pendidik, pemimpin, dan pembuat dasar yang akan datang.

Dalam Ingatan

Profesor Emeritus Dato' Dr Ir Zainul Abidin Md Shariff FASc

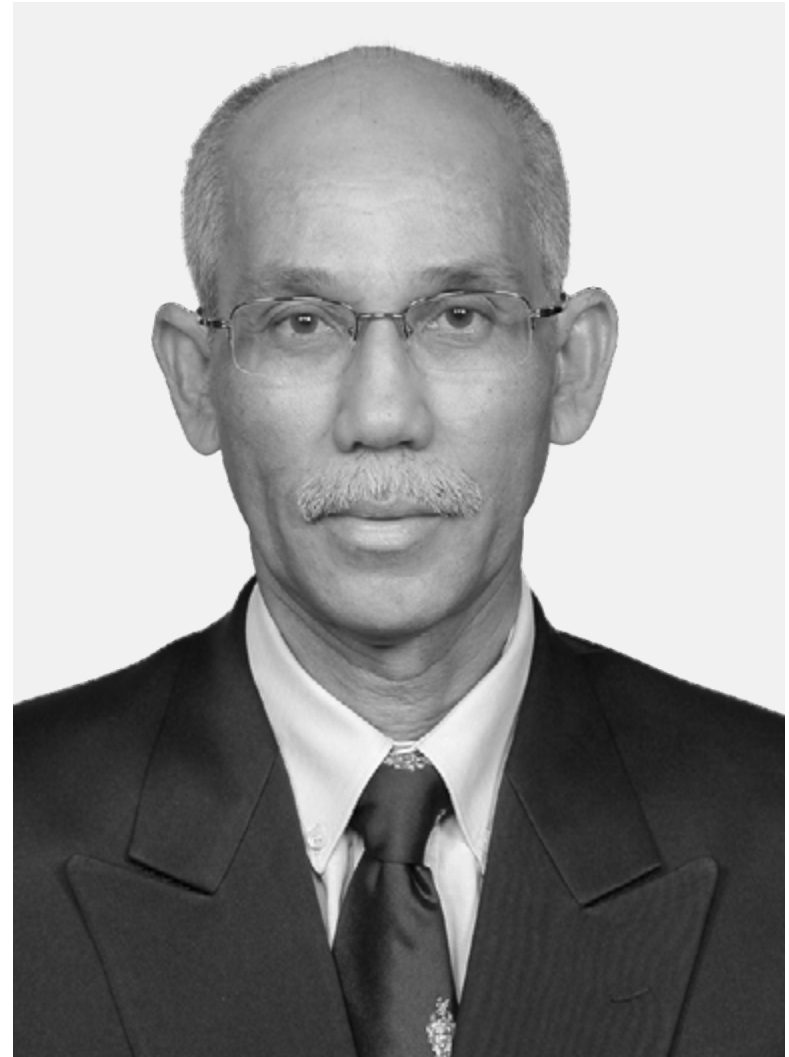
16 November 1949 - 17 Oktober 2024

Allahyarham Profesor Emeritus Dato' Dr Ir Zainul Abidin Md Shariff FASc merupakan seorang tokoh akademik dan jurutera yang unggul. Beliau diiktiraf atas kepakarannya dalam pemprosesan isyarat digital, pemprosesan pertuturan dan imej, pemantauan keadaan peranti elektrik, kecerdasan buatan, dan pembelajaran mendalam. Penyelidikan dan inovasi beliau dalam bidang-bidang ini telah memberikan sumbangan besar kepada kejuruteraan elektrik, sains komputer, dan pendidikan tinggi di Malaysia.

Pada tahun 1997, beliau telah dipanggil semula oleh Tenaga Nasional Berhad (TNB) untuk membantu dalam penubuhan Universiti Tenaga Nasional (UNITEN). Sepanjang perkhidmatannya, beliau pernah menjawat jawatan sebagai Dekan Kolej Kejuruteraan, Rektor, dan akhirnya Naib Canselor dari tahun 2001 hingga 2006. Kepimpinan beliau memainkan peranan penting dalam meletakkan UNITEN sebagai sebuah institusi pendidikan kejuruteraan yang disegani. Sebelum itu, beliau berkhidmat selama 25 tahun di Universiti Kebangsaan Malaysia (UKM), di mana beliau aktif dalam pembangunan akademik dan penyeliaan penyelidikan, serta telah membimbing ramai jurutera dan sarjana.

Sebagai pengiktirafan atas jasa dan sumbangannya kepada negara, Profesor Zainul Abidin telah dikurniakan Darjah Setia Pangkuan Negeri pada tahun 2005 dan aktif berkhidmat dalam pelbagai panel pakar, termasuk Jawatankuasa Penilaian Penyelidikan dan Pembangunan (R&D) eDANA MOSTI dari tahun 2017 sehingga pemergiannya. Beliau juga merupakan ahli yang berdedikasi dalam badan profesional seperti Institute of Electrical and Electronics Engineers (IEEE), Institution of Engineers Malaysia (IEM), dan Lembaga Jurutera Malaysia (BEM).

Sumbangan Allahyarham Profesor Zainul Abidin terus hidup menerusi kemajuan serta individu yang telah beliau ilhamkan dan bimbing.





Profesor Ir Dr Nasrudin Abd Rahim FASc
17 November 1960 - 11 November 2024

Allahyarham Profesor Ir Dr Nasrudin Abd Rahim FASc merupakan seorang pakar yang dihormati dalam bidang elektronik kuasa dan pemacu, teknologi fotovolta suria (PV), sistem kawalan masa nyata, pengurusan permintaan pengangkutan, dan dasar tenaga. Beliau telah menyumbang secara signifikan dalam penyelidikan akademik dan aplikasi industri, termasuk khidmat nasihat, perkhidmatan pengujian profesional untuk ladang solar, serta pembangunan kemudahan penyelidikan khusus dalam penyongsang solar dan modul PV.

Beliau memulakan kerjaya akademiknya pada tahun 1996 sebagai pensyarah dalam bidang elektronik kuasa di UM, dan berkhidmat dengan cemerlang sehingga bersara pada tahun 2020. Beliau kemudiannya kembali ke UM sebagai profesor kontrak kanan. Sepanjang kerjayanya, beliau telah memegang beberapa peranan kepimpinan penting, termasuk sebagai Pengarah Pengasas Pusat Kecemerlangan Pengajian Tinggi UMPEDAC (*UM Power Energy Dedicated Advanced Centre*), yang ditubuhkan hasil inisiatif dan usaha gigih beliau.

Beliau menerajui pelbagai inisiatif penyelidikan perintis dalam tenaga boleh diperbaharui, elektronik kuasa, dan kecekapan tenaga. Beliau merupakan ketua projek bagi beberapa projek nasional, termasuk inisiatif *Malaysian Building Integrated PV* (MBIPV) yang telah menghasilkan penyongsang PV yang disambung terus ke grid pertama buatan Malaysia. Antara inovasi beliau termasuk pengkomersialan sistem pemantauan dan diagnostik solar serta pelesenan penyongsang terus ke grid 4kW kepada Endau-XT Sdn Bhd. Beliau turut mengetuai pembangunan salutan pembersih untuk panel solar di bawah Van Coating Sdn Bhd, yang direka untuk mengurangkan pengumpulan kotoran dan meningkatkan penjaan tenaga.

Hasil kerja Allahyarham Profesor Nasrudin dalam bidang tenaga boleh diperbaharui dan sistem kuasa terus menunjukkan hala tuju ke arah masa depan yang lebih lestari untuk Malaysia dan seluruh dunia.

Dalam Ingatan

Tan Sri Dato' Seri T. Ananda Krishnan FASc

01 April 1938 - 28 November 2024

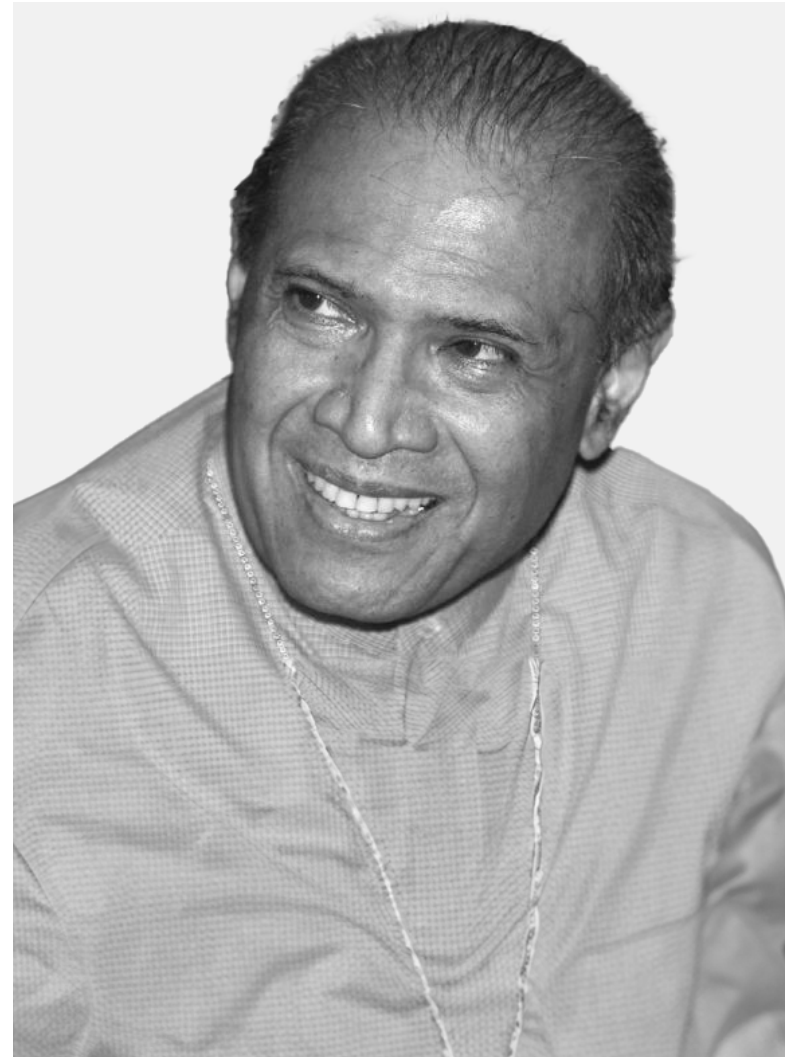
Mendiang Tan Sri Dato' Seri T. Ananda Krishnan FASc merupakan seorang ahli perniagaan berwawasan, dermawan, dan salah satu tokoh paling berpengaruh di Malaysia dalam bidang telekomunikasi, media dan tenaga. Beliau memainkan peranan penting dalam penubuhan Maxis Communications sebagai syarikat telekomunikasi swasta pertama di Malaysia. Di bawah kepimpinannya, Maxis berkembang pesat, menjadi pengendali mudah alih terbesar di negara ini dan menyumbang secara signifikan kepada pembangunan infrastruktur telekomunikasi negara.

Sebagai pengasas Astro, perkhidmatan televisyen satelit siaran langsung pertama Malaysia, beliau telah merevolusikan landskap media negara. Astro bukan sahaja memperkenalkan bentuk hiburan baharu, malah membawa kandungan antarabangsa ke Malaysia, mempelbagaikan penawaran media negara dan menyemai pembangunan budaya. Pengaruh beliau turut merentasi sempadan Malaysia, dengan pengembangan Maxis ke India dan jangkauan Astro ke negara-negara Asia Tenggara lain, sekali gus memperkukuh kepimpinan perniagaannya di peringkat global.

Kejayaan Tan Sri Ananda dalam dunia perniagaan turut terserlah melalui sumbangannya dalam sektor tenaga. Menerusi Bumi Armada, sebuah syarikat perkhidmatan medan minyak luar pesisir, beliau memainkan peranan penting dalam mencorak landskap tenaga Malaysia dan meningkatkan kehadiran negara dalam operasi minyak dan gas luar pesisir global, menjadikan Malaysia sebagai pemain utama dalam sektor tenaga dunia.

Beliau turut mengasaskan Usaha Tegas dan berkhidmat sebagai pengerusinya. Di bawah kepimpinannya, Usaha Tegas melancarkan Dana Pendidikan Harapan Nusantara yang menyokong 100 pelajar setiap tahun untuk mengikuti program pengajian khusus di universiti swasta tempatan dengan kerjasama institusi antarabangsa. Selain itu, beliau turut memulakan Yayasan Yu Cai (YCF) yang memberi tumpuan kepada pembangunan pendidikan, khususnya dalam kalangan masyarakat Cina di Malaysia.

Legasi mendiang Tan Sri Ananda terus kekal relevan melalui industri dan kehidupan yang telah beliau transformasikan, dan generasi masa depan yang diberdayakan melalui visi filantropi beliau.





Academician Datuk Ir Hong Lee Pee FASc
22 Mei 1946 - 24 Disember 2024

Mendiang Academician Datuk Ir Hong Lee Pee FASc merupakan seorang jurutera geoteknikal dan awam yang terkenal dengan kepakaran beliau dalam asas pembangunan cerucuk, kejuruteraan geoteknik, dan sistem infrastruktur inovatif. Beliau telah membangunkan dan mempatenkan beberapa pencapaian kejuruteraan yang signifikan termasuk *Tripile*, *Ujian Dua Cerucuk*, *Penetrometer IFP*, serta konsep “Lapangan Terbang di atas Laut” — satu inovasi yang diiktiraf di peringkat antarabangsa dan telah dianugerahkan paten di beberapa negara termasuk Amerika Syarikat. Beliau juga mengasaskan PILECON Engineering Sdn Bhd dan mengembangkannya menjadi PILECON Berhad, syarikat pembinaan pertama yang disenaraikan di Bursa Saham Kuala Lumpur. Di bawah kepimpinan beliau, syarikat ini memainkan peranan penting dalam merubah landskap industri pembinaan Malaysia.

Datuk Hong memegang keahlian dan pendaftaran dalam pelbagai institusi kejuruteraan di peringkat nasional dan antarabangsa, serta berkhidmat dalam pelbagai peranan kepimpinan merentasi bidang akademik, kerajaan, dan diplomasi, termasuk sebagai Pengerusi Pertubuhan Keselamatan Sosial (PERKESO) dan Konsul Kehormat Lithuania di Malaysia. Beliau juga merupakan Ahli Majlis Universiti Tunku Abdul Rahman (UTAR) yang lama berkhidmat, serta aktif menyumbang kepada badan pemikir ekonomi dan dasar.

Pada tahun-tahun akhir hayatnya, Datuk Hong giat memperjuangkan pemerkasaan pendidikan STEM, khususnya dalam kalangan pelajar sekolah dan universiti. Sebagai Presiden Akademi Kejuruteraan dan Teknologi ASEAN (AAET), beliau telah memulakan Pesta Sains Kejuruteraan Kuala Lumpur (KLESF), yang kini berkembang menjadi acara tahunan utama yang disokong oleh pelbagai agensi dan institusi kebangsaan.

Komitmen berterusan mendiang Datuk Hong terhadap pendidikan, inovasi dan pembangunan negara terus menjadi inspirasi kepada para jurutera, penyelidik, penggubal dasar, dan generasi muda di Malaysia dan peringkat antarabangsa.

Laporan Kewangan

Gambaran Keseluruhan & Analisis Kewangan

Penyata Kewangan Akademi Sains Malaysia dan laporannya disediakan mengikut Akta Akademi Sains Malaysia (Akta 524) dan Piawaian Perakaunan Sektor Awam Malaysia (MPSAS). Laporan ini bertujuan menerangkan kedudukan kewangan ASM serta ringkasan urusniaga kewangan bagi tahun berakhir 31 Disember 2024.

Penyata Kewangan bagi tahun berakhir 31 Disember 2024 telah disediakan dan dikemukakan kepada Ketua Audit Negara pada 10 Februari 2025. Ketua Audit Negara telah mengaudit Penyata Kewangan 2024 dan mengeluarkan Sijil Ketua Audit Negara pada 14 April 2025.

Penyata Kedudukan Kewangan

Kedudukan Kewangan ASM pada tahun 2024 mencatatkan lebih terkumpul berjumlah RM13,618,887 [2023:RM13,422,540]. Jumlah aset yang telah direkodkan pada 2024 adalah RM283,416,496 [2023:RM272,507,332] manakala jumlah liabiliti pula adalah RM269,797,609 [2023:RM259,084,792].



Jawatankuasa Kewangan 2024/2025

Academician Emeritus Profesor Datin Paduka Setia Dato' Dr Aini Ideris FASc, Bendahari Kehormat (Pengerusi)

- Profesor Dato' TPr Dr Alias Abdullah FASc
- Ts Dr Chantara Thevy Ratnam FASc
- Dato' Dr Jalaluddin Harun FASc
- Profesor Dato' Dr Mohd Ali Hassan FASc
- Profesor Emeritus Dato' Dr Mohd Jamil Maah FASc
- Profesor Emeritus Dr Normah Mohd Noor FASc
- Profesor Datuk Dr Rohana Yusof FASc
- Profesor Dr Zainuriah Hassan FASc

Liabiliti

Geran Pembangunan

RM250,524,853

ASM menguruskan empat projek di bawah RMKe-12.

Geran Tertunda

RM6,655,863

ASM menerima beberapa projek daripada Kerajaan Malaysia untuk tujuan tertentu. ASM terikat dengan terma rujukan dan tempoh program seperti yang ditetapkan dalam perjanjian.

Geran Tertunda Antarabangsa

RM1,050,886

Peruntukan ISTIC di bawah UNESCO Kategori II yang dihoskan oleh Kerajaan Malaysia.

Pelaburan ASM

Simpanan tetap dibuat dalam tempoh 12 bulan atau kurang. Purata wajaran kadar faedah berkesan ialah 3.86% setahun [2023:4.10% setahun].

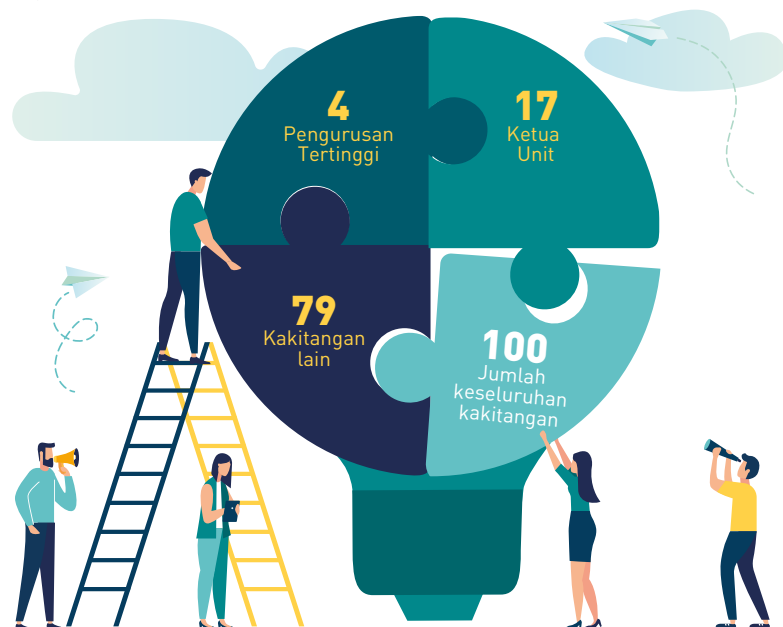
Penyata Prestasi Kewangan

ASM mencatatkan lebih selepas cukai pada tahun 2024 berjumlah RM196,347, berbanding tahun 2023 yang mencatatkan defisit selepas cukai berjumlah RM523,748. Ini menunjukkan keseluruhan perbelanjaan ASM bagi tahun 2024 ialah 99%. Ini merupakan peningkatan ketara Pengurusan ASM dalam memantau perbelanjaan operasinya.

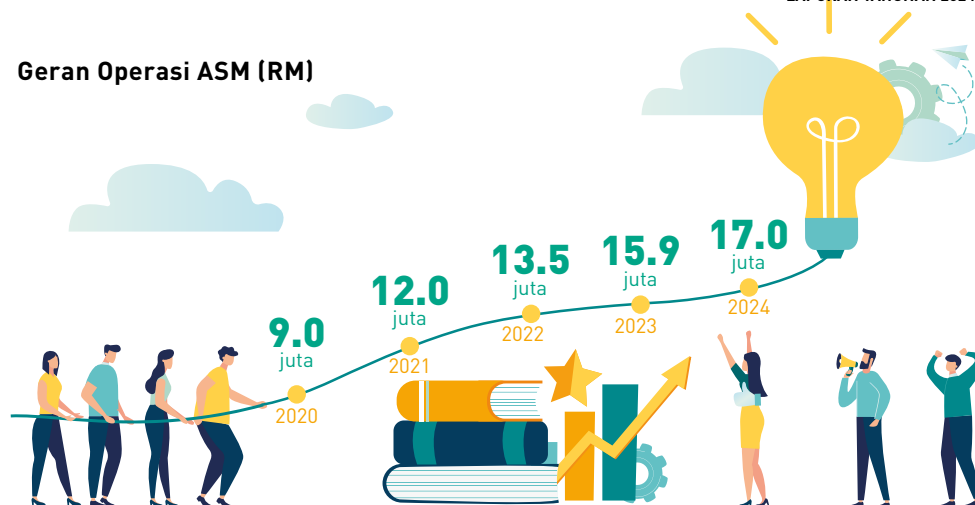
Hasil (RM)



Pengurusan ASM



Geran Operasi ASM (RM)



Perbelanjaan (RM)



Sijil Kewangan



SIJIL KETUA AUDIT NEGARA MENGENAI PENYATA KEWANGAN AKADEMI SAINS MALAYSIA BAGI TAHUN BERAKHIR 31 DISEMBER 2024

Sijil Mengenai Pengauditan Penyata Kewangan

Pendapat

Saya telah memberikan kuasa kepada firma audit swasta di bawah subseksyen 7(3) Akta Audit 1957 [Akta 62] untuk mengaudit Penyata Kewangan Akademi Sains Malaysia. Penyata kewangan tersebut merangkumi Penyata Kedudukan Kewangan pada 31 Disember 2024 Akademi Sains Malaysia dan Penyata Prestasi Kewangan, Penyata Perubahan Dalam Aset Bersih, Penyata Aliran Tunai serta Penyata Perbandingan Bajet dan Sebenar bagi tahun berakhir pada tarikh tersebut dan nota kepada penyata kewangan termasuklah ringkasan polisi perakaunan yang signifikan seperti yang dinyatakan pada muka surat 3 hingga 34.

Pada pendapat saya, penyata kewangan ini memberikan gambaran yang benar dan saksama mengenai kedudukan kewangan Akademi Sains Malaysia pada 31 Disember 2024 dan prestasi kewangan serta aliran tunai bagi tahun berakhir pada tarikh tersebut selaras dengan Piawaian Perakaunan Sektor Awam Malaysia (MPSAS) dan keperluan Akta Akademi Sains Malaysia 1994 [Akta 524].

Asas Kepada Pendapat

Pengauditan telah dilaksanakan berdasarkan Akta Audit 1957 dan International Standards of Supreme Audit Institutions. Tanggungjawab saya diuraikan selanjutnya di perenggan Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan dalam sijil ini. Saya percaya bahawa bukti audit yang diperolehi adalah mencukupi dan bersesuaian untuk dijadikan asas kepada pendapat saya.

Kebebasan dan Tanggungjawab Etika Lain

Saya adalah bebas daripada Akademi Sains Malaysia dan telah memenuhi tanggungjawab etika lain berdasarkan International Standards of Supreme Audit Institutions.

Maklumat Lain Selain Daripada Penyata Kewangan dan Sijil Juruaudit Mengenainya

Majlis, Akademi Sains Malaysia bertanggungjawab terhadap maklumat lain dalam Laporan Tahunan. Pendapat saya terhadap Penyata Kewangan Akademi Sains Malaysia tidak meliputi maklumat lain selain daripada penyata kewangan dan Sijil Juruaudit mengenainya dan saya tidak menyatakan sebarang bentuk kesimpulan jaminan mengenainya.

Tanggungjawab Majlis Terhadap Penyata Kewangan

Majlis bertanggungjawab terhadap penyediaan Penyata Kewangan Akademi Sains Malaysia yang memberi gambaran benar dan saksama selaras dengan Piawaian Perakaunan Sektor Awam Malaysia (MPSAS) dan keperluan Akta Akademi Sains Malaysia 1994 [Akta 524]. Majlis juga bertanggungjawab terhadap penetapan kawalan dalaman yang perlu bagi membolehkan penyediaan Penyata Kewangan Akademi Sains Malaysia yang bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan.

Semasa penyediaan Penyata Kewangan Akademi Sains Malaysia, Majlis bertanggungjawab untuk menilai keupayaan Akademi Sains Malaysia untuk beroperasi sebagai satu usaha berterusan, mendedahkannya jika berkaitan serta menggunakannya sebagai asas perakaunan.

Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan

Objektif saya adalah untuk memperoleh keyakinan yang munasabah sama ada Penyata Kewangan Akademi Sains Malaysia secara keseluruhannya adalah bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan, dan mengeluarkan Sijil Juruaudit yang merangkumi pendapat saya. Jaminan yang munasabah adalah satu tahap jaminan yang tinggi, tetapi bukan satu jaminan bahawa audit yang dijalankan mengikut International Standards of Supreme Audit Institutions akan sentiasa mengesan salah nyata yang ketara apabila ia wujud. Salah nyata boleh wujud daripada fraud atau kesilapan dan dianggap ketara sama ada secara individu atau agregat sekiranya boleh dijangkakan dengan munasabah untuk mempengaruhi keputusan ekonomi yang dibuat oleh pengguna berdasarkan penyata kewangan ini.

Sebagai sebahagian daripada pengauditan mengikut International Standards of Supreme Audit Institutions, saya menggunakan pertimbangan profesional dan mengekalkan keraguan profesional sepanjang pengauditan. Saya juga:

- mengenal pasti dan menilai risiko salah nyata ketara dalam Penyata Kewangan Akademi Sains Malaysia, sama ada disebabkan fraud atau kesilapan, merangka dan melaksanakan prosedur audit yang responsif terhadap risiko berkenaan serta mendapatkan bukti audit yang mencukupi dan bersesuaian untuk memberikan asas

kepada pendapat saya. Risiko untuk tidak mengesan salah nyata ketara akibat daripada fraud adalah lebih tinggi daripada kesilapan kerana fraud mungkin melibatkan pakatan, pemalsuan, ketinggalan yang disengajakan, representasi yang salah, atau mengatasi kawalan dalaman;

- b. memahami kawalan dalaman yang relevan untuk merangka prosedur audit yang bersesuaian tetapi bukan untuk menyatakan pendapat mengenai keberkesanan kawalan dalaman Akademi Sains Malaysia;
- c. menilai kesesuaian dasar perakaunan yang diguna pakai, kemunasabahan anggaran perakaunan dan pendedahan yang berkaitan oleh Majlis;
- d. membuat kesimpulan terhadap kesesuaian penggunaan asas perakaunan untuk usaha berterusan oleh Majlis dan berdasarkan bukti audit yang diperolehi, sama ada wujudnya ketidakpastian ketara yang berkaitan dengan peristiwa atau keadaan yang mungkin menimbulkan keraguan yang signifikan terhadap keupayaan Akademi Sains Malaysia sebagai satu usaha berterusan. Jika saya membuat kesimpulan bahawa ketidakpastian ketara wujud, saya perlu melaporkan dalam Sijil Juruaudit terhadap pendedahan yang berkaitan dalam Penyata Kewangan Akademi Sains Malaysia atau, jika pendedahan tersebut tidak mencukupi, pendapat saya akan diubah. Kesimpulan saya dibuat berdasarkan bukti audit yang diperolehi sehingga tarikh Sijil Juruaudit. Bagaimanapun, peristiwa atau keadaan pada masa hadapan berkemungkinan menyebabkan Akademi Sains Malaysia tidak lagi berupaya meneruskan operasi secara usaha berterusan; dan
- e. menilai persembahan secara keseluruhan, struktur dan kandungan Penyata Kewangan Akademi Sains Malaysia, termasuk pendedahannya, dan sama ada penyata kewangan tersebut telah melaporkan asas-asas urus niaga dan peristiwa-peristiwa yang memberikan gambaran saksama.

Majlis telah dimaklumkan, antaranya mengenai skop dan tempoh pengauditan yang dirancang serta penemuan audit yang signifikan termasuk kelemahan kawalan dalaman yang dikenal pasti semasa pengauditan.

Hal-hal Lain

Akademi Sains Malaysia hendaklah mengambil tindakan proaktif berbincang dengan pihak Kementerian Sumber Asli dan Kelestarian Alam berhubung baki geran *Study on Environmental Quality Act* sebanyak RM769,304 yang tidak menunjukkan pergerakan sejak tahun 2022 agar baki geran tersebut dapat dimanfaatkan sepenuhnya.

Sijil ini dibuat untuk Majlis, Akademi Sains Malaysia berdasarkan keperluan Akta Akademi Sains Malaysia 1994 [Akta 524] dan bukan untuk tujuan lain. Saya tidak bertanggungjawab terhadap pihak lain bagi kandungan sijil ini.



(DATO' SERFWAN SURAYA WAN MOHD RADZI)
KETUA AUDIT NEGARA
MALAYSIA

PUTRAJAYA
29 APRIL 2025





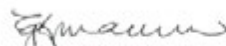
Academy of Sciences Malaysia

PENYATA PRESIDEN DAN BENDAHARI KEHORMAT AKADEMI SAINS MALAYSIA
STATEMENT BY PRESIDENT AND HONORARY TREASURER OF THE ACADEMY OF SCIENCES MALAYSIA

Kami, **ACADEMICIAN DATUK DR. TENGKU MOHD AZZMAN SHARIFFADEEN TENGKU IBRAHIM FASC** dan **ACADEMICIAN DATIN PADUKA SETIA DATO' DR. AINI IDERIS FASC**, yang merupakan Presiden dan Bendahari Kehormat AKADEMI SAINS MALAYSIA (ASM) dan juga Ahli Majlis, dengan ini menyatakan bahawa, pada pendapat Majlis ASM, Penyata Kedudukan Kewangan, Penyata Prestasi Kewangan, Penyata Perubahan Aset Bersih, Penyata Aliran Tunai dan Penyata Perbandingan Bajet dan Sebenar yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan didalamnya adalah disediakan untuk menunjukkan pandangan yang benar dan saksama berkenaan kedudukan ASM pada 31 Disember 2024 dan hasil kendaliannya serta perubahan kedudukan kewangannya bagi tahun berakhir pada tarikh tersebut.

*We, **ACADEMICIAN DATUK DR. TENGKU MOHD AZZMAN SHARIFFADEEN TENGKU IBRAHIM FASC** and **ACADEMICIAN DATIN PADUKA SETIA DATO' DR. AINI IDERIS FASC** being the President and Honorary Treasurer of the ACADEMY OF SCIENCES MALAYSIA (ASM) as well as Council Members, do hereby declare that, in the opinion of ASM Council, the Statement of Financial Position, Statement of Financial Performance, Statement of Changes in Net Assets, Statement of Cash Flow and Statement of Comparison Budget and Actual together with the notes contained therein are drawn up in order to give a true and fair view of the financial position of ASM as at 31 December 2024 and the resulting revenues and changes in the financial position of the period ending on that date.*

Bagi pihak Majlis
On behalf of the Council


ACADEMICIAN DATUK DR. TENGKU MOHD AZZMAN SHARIFFADEEN TENGKU IBRAHIM FASC
Presiden / President
Akademi Sains Malaysia / Academy of Sciences Malaysia

KUALA LUMPUR, MALAYSIA
Tarikh / Date: **28 MAR 2025**

20th Floor, West Wing, MATRADE Tower
Jalan Sultan Haji Ahmad Shah off Jalan Tuanku Abdul Halim, 50489 Kuala Lumpur
T: 03 6203 0633 F: 03 6203 0634
www.aksainsains.gov.my



Academy of Sciences Malaysia

PENGAKUAN OLEH KETUA PEGAWAI EKSEKUTIF KE ATAS PENGURUSAN KEWANGAN AKADEMI SAINS MALAYSIA
DECLARATION BY CHIEF EXECUTIVE OFFICER ON THE FINANCIAL MANAGEMENT OF THE ACADEMY OF SCIENCES MALAYSIA

Saya, **HAZAMI BINTI HABIB**, No. K/P: 660619-08-5516 pegawai utama yang bertanggungjawab ke atas pengurusan kewangan dan rekod-rekod perakaunan AKADEMI SAINS MALAYSIA (ASM), dengan ikhlasnya mengakui bahawa Penyata Kedudukan Kewangan, Penyata Prestasi Kewangan, Penyata Perubahan Dalam Aset Bersih, Penyata Aliran Tunai dan Penyata Perbandingan Bajet dan Sebenar dalam kedudukan kewangan yang berikut ini berserta dengan nota-nota kepada penyata kewangan didalamnya mengikut sebaik-baik pengetahuan dan kepercayaan saya, adalah betul dan saya membuat ikrar ini dengan sebenarnya mempercayai bahawa ia adalah benar dan atas kehendak-kehendak Akta Akuan Berkanun, 1960.

*I, **HAZAMI BINTI HABIB**, NRIC No: 660619-08-5516 being the officer primarily responsible for the financial management of the ACADEMY OF SCIENCES MALAYSIA (ASM), do solemnly and sincerely declare that the Statement of Financial Position, Statement of Financial Performance, Statement of Changes in Net Assets, Statement of Cash Flow and Statement of Comparison Budget and Actual together with the notes therein, are the best of my knowledge and belief, correct, and I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Statutory Declarations Act 1960.*

Sebenarnya dan
sesungguhnya diakui oleh
penama di atas di Kuala
Lumpur, Malaysia
Subscribed and solemnly
declared by the abovenamed
at Kuala Lumpur, Malaysia


HAZAMI BINTI HABIB

Tarikh / Date: **28 MAR 2025**

Di hadapan saya / Before me:


A-11 401
CHONG JIAH YEE
KOMPLEKS MATRADE
KUALA LUMPUR
JALAN TUANKU AL-HAJAH
01.07.2024 - 060619227
MALAYSIA

20th Floor, West Wing, MATRADE Tower
Jalan Sultan Haji Ahmad Shah off Jalan Tuanku Abdul Halim, 50489 Kuala Lumpur
T: 03 6203 0633 F: 03 6203 0634
www.aksainsains.gov.my

PENYATA KEDUDUKAN KEWANGAN
PADA 31 DISEMBER 2024

	Nota	2024 RM	2023 RM <i>Dinyatakan Semula</i>
ASET			
Aset Semasa			
Wang Tunai dan Baki di Bank	3	3,328,150	2,990,455
Simpanan Tetap	4	275,405,753	264,399,335
Urus Niaga Pertukaran Belum Terima	5	140,696	26,470
Akaun Belum Terima Lain	6	764,382	769,369
Jumlah Aset Semasa		279,638,981	268,185,629
Aset Bukan Semasa			
Hartanah, Loji dan Peralatan	7	3,413,515	3,853,703
Aset Tidak Ketara	8	364,000	468,000
Jumlah Aset Bukan Semasa		3,777,515	4,321,703
JUMLAH ASET		283,416,496	272,507,332
LIABILITI			
Liabiliti Semasa			
Urus Niaga Pertukaran Belum Bayar	10	11,002,485	1,315,269
Peruntukan Manfaat Pekerja	11	380,907	290,526
Terimaan Terdahulu	12	81,061	133,409
Peruntukan Cukai	25	-	43,095
Jumlah Liabiliti Semasa		11,464,453	1,782,299
Liabiliti Bukan Semasa			
Peruntukan Manfaat Pekerja	11	101,554	78,466
Geran Tertunda	13	6,655,863	5,345,140
Geran Tertunda – Pejabat Antarabangsa	14	1,050,886	980,963
Geran Tertunda Pembangunan	15	250,524,853	250,897,924
Jumlah Liabiliti Bukan Semasa		258,333,156	257,302,493
JUMLAH LIABILITI		269,797,609	259,084,792
ASET BERSIH		13,618,887	13,422,540
DIBIAYAI OLEH:			
ASET BERSIH/EKUITI			
Lebihan Berkumpul		13,618,887	13,422,540
JUMLAH ASET BERSIH/EKUITI		13,618,887	13,422,540

PENYATA PRESTASI KEWANGAN
BAGI TAHUN KEWANGAN BERAKHIR 31 DISEMBER 2024

	Nota	2024 RM	2023 RM <i>Dinyatakan Semula</i>
HASIL			
Urus Niaga Bukan Pertukaran	16	19,845,500	18,200,825
Urus Niaga Pertukaran	17	1,585,227	1,443,600
Jumlah Hasil		21,430,727	19,644,425
PERBELANJAAN			
Gaji dan Upahan	18	817,193	779,514
Perkhidmatan dan Bekalan	19	12,079,440	11,175,900
Perbelanjaan Program Sains	20	4,955,500	4,370,210
Pemberian dan Kenaan Bayaran Tetap	21	136,591	140,700
Manfaat Kakitangan	22	423,523	349,643
Perbelanjaan-Perbelanjaan Lain	23	156,625	655,192
Sewaan	24	1,795,062	1,651,781
Susut Nilai Hartanah, Loji, dan Peralatan dan Pelunasan Aset Tidak Ketara	7 & 8	766,630	869,608
Jumlah Perbelanjaan		21,130,564	19,992,548
Lebihan/(Kurangan) Sebelum Cukai		300,163	(348,123)
Cukai	25	103,816	175,624
Lebihan/(Kurangan) Selepas Cukai		196,347	(523,747)

PENYATA PERUBAHAN DALAM ASET BERSIH
BAGI TAHUN KEWANGAN BERAKHIR 31 DISEMBER 2024

	Nota	Lebihan Terkumpul RM	Jumlah RM
Baki pada 01 Januari 2023		13,946,287	13,946,287
Kurangan Pendapatan atas Perbelanjaan		(519,744)	(519,744)
Pelarasan tahun lalu	30	(4,003)	(4,003)
Seperti dinyatakan semula		(523,747)	(523,747)
Baki pada 31 Disember 2023/ 01 Januari 2024		13,422,540	13,422,540
Lebihan Pendapatan atas Perbelanjaan		196,347	196,347
Baki pada 31 Disember 2024		13,618,887	13,618,887

PENYATA ALIRAN TUNAI
BAGI TAHUN KEWANGAN BERAKHIR 31 DISEMBER 2024

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
<u>ALIRAN TUNAI DARIPADA OPERASI</u>		
Lebihan/ (Kurangan) Sebelum Cukai	300,163	(348,123)
Pelarasan:		
Susut Nilai Hartanah, Loji dan Peralatan	662,630	817,608
Pelunasan Aset Tidak Ketara	104,000	52,000
Pendapatan Faedah daripada Deposit Jangka Pendek dan Simpanan Tetap	(494,602)	(546,934)
Keuntungan daripada Pelupusan Hartanah, Loji dan Peralatan	(65)	-
Kerugian daripada Pelupusan Hartanah, Loji dan Peralatan	109,982	571,044
Peruntukan Manfaat Pekerja	429,236	362,136
Lebihan dari Operasi Sebelum Perubahan Modal Kerja	1,111,344	907,731
Penurunan/ (Peningkatan) daripada Urus Niaga Pertukaran Belum Terima	172,515	(56,796)
Peningkatan / (Penurunan) daripada Urus Niaga Pertukaran Belum Bayar	9,687,216	(80,193)
Penurunan daripada Terimaan Terdahulu	(52,348)	(253,403)
Bayaran Manfaat Pekerja	(315,767)	(275,014)
Tunai Dijana untuk Aktiviti Operasi	10,602,960	242,325
Cukai Dibayar	(186,985)	(112,717)
Pulangan Cukai	20,012	-
Tunai Bersih Dijana untuk Aktiviti Operasi	10,435,987	129,608
<u>ALIRAN TUNAI DARIPADA AKTIVITI PELABURAN</u>		
Terimaan daripada Pelupusan Hartanah, Loji, dan Peralatan	79	16,056
Pembelian Hartanah, Loji dan Peralatan	(332,439)	(904,570)
Pembelian Aset Tidak Ketara	-	(520,000)
Pengurangan Kerja dalam Kemajuan	-	581,394
Faedah Diterima	232,911	332,486
Tunai Bersih Digunakan daripada Aktiviti Pelaburan	(99,449)	(494,634)
<u>ALIRAN TUNAI DARIPADA AKTIVITI PEMBIAYAAN</u>		
Terimaan Geran Tertunda	4,817,330	1,503,225
Bayaran Geran Tertunda	(3,506,607)	(5,995,295)
Terimaan Geran Tertunda - Antarabangsa	2,139,521	2,133,046
Bayaran Geran Tertunda - Antarabangsa	(2,069,598)	(1,928,279)
Terimaan Geran Tertunda - Pembangunan	2,865,000	254,050,000
Bayaran Geran Tertunda - Pembangunan	(3,238,071)	(3,200,099)
Tunai Bersih Dijana Daripada Aktiviti Pembiayaan	1,007,575	246,562,598
PENINGKATAN BAKI TUNAI DAN KESETARAAN TUNAI	11,344,113	246,197,572
TUNAI DAN KESETARAAN TUNAI PADA AWAL TAHUN KEWANGAN	267,389,790	21,192,218
TUNAI DAN KESETARAAN TUNAI PADA AKHIR TAHUN KEWANGAN	278,733,903	267,389,790

Nota di muka surat 7 hingga 34 merupakan sebahagian asas Penyata Kewangan ini.

PENYATA ALIRAN TUNAI (SAMB)
BAGI TAHUN KEWANGAN BERAKHIR 31 DISEMBER 2024

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
<u>DIWAKILI OLEH:</u>		
Simpanan Tetap	275,405,753	264,399,335
Wang Tunai dan Baki di Bank	3,328,150	2,990,455
	278,733,903	267,389,790

PENYATA PERBANDINGAN BAJET DAN SEBENAR
BAGI TAHUN KEWANGAN BERAKHIR 31 DISEMBER 2024

	Jumlah Bajet		Jumlah	Varian
	Asal 2024 RM	Akhir 2024 RM	Sebenar 2024 RM	Bajet 2024 RM
<u>PENERIMAAN</u>				
Urus Niaga Bukan Pertukaran				
Pemberian Kerajaan	15,000,000	15,000,000	15,000,000	-
<u>PEMBAYARAN</u>				
Gaji dan Upahan	827,985	827,985	817,193	10,792
Perkhidmatan dan Bekalan	13,408,086	13,408,086	13,242,726	165,360
Pemberian dan Kenaan Bayaran Tetap	518,444	518,444	493,420	25,024
Perbelanjaan-Perbelanjaan Lain	245,485	245,485	190,992	54,493
	15,000,000	15,000,000	14,744,331	255,669
PENERIMAAN BERSIH	-	-	255,669	255,669

NOTA-NOTA KEPADA PENYATA KEWANGAN BAGI TAHUN BERAKHIR 31 DISEMBER 2024

1 MAKLUMAT AM

a) Penubuhan dan Objektif Utama

Akademi Sains Malaysia (ASM) telah ditubuhkan di bawah Akta Akademi Sains Malaysia 1994 (Akta 524). Objektif utama ASM adalah untuk mencapai, menggalak dan meningkatkan kecemerlangan dalam bidang sains, kejuruteraan dan teknologi khusus untuk kemajuan dan pembangunan negara serta untuk kebaikan manusia sejagat.

b) Mata Wang Fungsian untuk Penyata Kewangan

Penyata Kewangan ini dibentangkan dalam Ringgit Malaysia ("RM") yang merupakan mata wang fungsian dan persembahan ASM. Semua maklumat kewangan yang dibentangkan adalah dalam RM.

c) Tarikh Penyata Kewangan Diluluskan

Penyata Kewangan Akademi bagi tahun kewangan berakhir 31 Disember 2024 telah dibentangkan dan diluluskan oleh Majlis ASM pada 28 Mac 2025.

2 DASAR PERAKAUNAN

a) Asas Penyediaan Penyata Kewangan

Penyata Kewangan ASM telah disediakan mengikut kelaziman kos sejarah dan mematuhi Piawaian Perakaunan Sektor Awam Malaysia (MPSAS).

Penyediaan penyata kewangan memerlukan pertimbangan, anggaran dan andaian yang memberi kesan kepada penggunaan dasar dan amaun bagi aset, liabiliti, hasil dan belanja yang dilaporkan.

Anggaran dan andaian yang digunakan akan disemak secara berterusan. Semakan semula kepada anggaran perakaunan akan diiktiraf dalam tempoh anggaran tersebut disemak atau dalam tempoh semakan dan tempoh masa hadapan sekiranya semakan semula memberi kesan kepada tempoh semasa dan masa yang akan datang.

Sekiranya pertimbangan, anggaran dan andaian ini memberi kesan signifikan kepada amaun yang diiktiraf dalam penyata kewangan, ia telah didedahkan dalam Nota 2(p) Pertimbangan Perakaunan Kritikal dan Sumber Utama Ketidakpastian Anggaran kepada penyata kewangan.

b) Pengiktirafan Hasil

Hasil daripada Urus Niaga Bukan Pertukaran

Urus niaga bukan pertukaran akan diiktiraf sebagai aset apabila terdapat manfaat ekonomi masa depan atau potensi perkhidmatan dijangka mengalir ke dalam entiti, ianya berpunca daripada peristiwa lampau serta nilai saksama aset dapat diukur dengan munasabah. Urus niaga bukan pertukaran yang diiktiraf sebagai aset hendaklah diiktiraf sebagai hasil, kecuali terdapat liabiliti yang juga diiktiraf dengan aliran masuk yang sama sebagai tertunda di dalam penyata kedudukan kewangan. Apabila obligasi terhadap sesuatu liabiliti itu telah dipenuhi, entiti hendaklah mengurangkan amaun bawaan liabiliti yang diiktiraf itu dan mengiktiraf amaun hasil yang sama dengan pengurangan itu.

2 DASAR PERAKAUNAN (SAMB)

b) Pengiktirafan Hasil (Samb.)

Hasil daripada Urus Niaga Bukan Pertukaran (Samb.)

Hasil daripada Urus Niaga Bukan Pertukaran adalah seperti berikut:

i. Geran Kerajaan

Geran Kerajaan yang tidak dikenakan syarat-syarat prestasi masa depan yang tertentu seperti geran keseimbangan diambil kira sebagai hasil di dalam penyata prestasi kewangan. Geran Kerajaan yang dikenakan syarat-syarat prestasi masa depan tertentu seperti geran pembangunan diiktiraf sebagai geran tertunda dan dilunaskan sebagai hasil bersamaan dengan amaun bawaan liabiliti yang telah memenuhi syarat. Geran dilunaskan berasaskan kaedah garis lurus mengikut anggaran hayat kegunaannya.

ii. Sumbangan

Sumbangan yang tidak dikenakan syarat-syarat prestasi masa depan yang tertentu diambil kira sebagai hasil di dalam penyata prestasi kewangan. Sumbangan yang dikenakan syarat-syarat prestasi masa depan tertentu diiktiraf sebagai liabiliti dan dilunaskan sebagai hasil bersamaan dengan amaun bawaan liabiliti yang telah memenuhi syarat. Sumbangan dilunaskan berasaskan kaedah garis lurus mengikut anggaran hayat kegunaannya.

Hasil daripada Urus Niaga Pertukaran

Hasil daripada urus niaga pertukaran diiktiraf apabila terdapat kemungkinan bahawa manfaat ekonomi masa hadapan atau potensi perkhidmatan akan mengalir kepada entiti dan manfaat ini boleh diukur dengan pasti.

Hasil daripada Urus Niaga Pertukaran adalah seperti berikut :

i. Pendapatan Faedah dan Pendapatan daripada Pelaburan

Hasil keuntungan daripada simpanan tetap diiktiraf atas dasar perkadaran masa yang mengambil kira kadar pulangan hasil efektif atas aset tersebut. Kadar pulangan hasil efektif ke atas aset ialah kadar keuntungan yang diperlukan untuk mendiskaunkan jangkaan aliran penerimaan tunai masa hadapan sepanjang hayat aset tersebut untuk disamakan dengan amaun bawaan awal aset tersebut.

Pendapatan faedah daripada simpanan dan deposit konvensional serta pendapatan daripada pelaburan diiktiraf mengikut asas akrual.

ii. Lain - lain Hasil

Lain-lain hasil diiktiraf apabila sesuatu perkhidmatan itu telah diberikan.

2 DASAR PERAKAUNAN (SAMB)

c) Hartanah, Loji dan Peralatan

Hartanah, loji dan peralatan dinyatakan pada kos tolak susut nilai terkumpul dan rosot nilai terkumpul. Kos termasuk semua kos langsung yang terlibat untuk membawa aset tersebut ke lokasi dan keadaan yang membolehkannya beroperasi dalam cara yang dikehendaki oleh pihak pengurusan. Kos penggantian bagi mana-mana aset yang memerlukan penggantian secara berkala akan dipermodalkan manakala nilai dibawa bagi bahagian yang diganti tersebut akan dinyahiktirafkan. Kos-kos perkhidmatan harian akan diiktiraf sebagai perbelanjaan dalam penyata prestasi kewangan.

Hartanah, loji dan peralatan diiktirafkan pada nilai kos RM2,000 dan ke atas atau yang memerlukan penyelenggaraan secara berkala akan dipermodalkan sebagai hartanah, loji dan peralatan.

Jika sesuatu aset diperoleh melalui urus niaga bukan pertukaran, kos hendaklah diukur berdasarkan nilai saksama pada tarikh perolehan. Aset-aset ini kemudiannya akan dikreditkan di dalam penyata prestasi kewangan, melainkan jika terdapat syarat-syarat mengenai penggunaan aset tersebut, di mana ia perlu diiktiraf di dalam liabiliti semasa.

Nilai dibawa bagi hartanah, loji dan peralatan hendaklah dinyahiktirafkan semasa pelupusan atau apabila tiada manfaat ekonomi masa hadapan atau potensi perkhidmatan yang dijangka daripada penggunaan atau pelupusannya.

Keuntungan atau kerugian atas nyahiktiraf hartanah, loji dan peralatan adalah ditentukan dengan membandingkan nilai pelupusan bersih dengan nilai dibawa aset di mana perbezaannya akan diambil kira sebagai keuntungan atau kerugian di dalam penyata prestasi kewangan.

Kos bangunan ASM di Jalan Tun Ismail yang dinilai pada tahun 2017 adalah berjumlah RM3,399,000. Namun, penilaian semula telah dilakukan oleh Jabatan Penilaian dan Perkhidmatan Harta (JPPH) ke atas bangunan yang sama pada 20 April 2021 dengan nilai kos bangunan berjumlah RM2,170,000.

Susut nilai bagi hartanah dan peralatan dikira berasaskan kaedah garis lurus di atas kos di sepanjang tempoh hayat kegunaan aset tersebut pada kadar yang berikut:-

Bangunan	60 tahun
Kenderaan	5 tahun
Peralatan Pejabat	5 tahun
Komputer	5 tahun
Alat Telekomunikasi	5 tahun
Ubahsuai Pejabat – Jalan Tun Ismail	10 tahun
Ubahsuai Pejabat – MATRADE	3 tahun

Susut nilai penuh dikenakan dalam tahun pembelian bagi hartanah, loji dan peralatan. Baki bersih setiap hartanah dan peralatan hendaklah tidak kurang daripada RM1. Jika terdapat tanda perubahan yang ketara dalam faktor-faktor yang memberi kesan kepada nilai sisa, jangkaan hayat atau corak berguna aset sejak tarikh laporan tahunan lepas, nilai sisa, kaedah susut nilai dan hayat berguna aset yang boleh disusut nilai akan disemak semula dan dilaraskan secara prospektif.

Kerja dalam kemajuan terdiri daripada kerja-kerja yang melibatkan hartanah dan peralatan yang belum disempurnakan sehingga akhir tahun kewangan semasa. Kerja dalam kemajuan dinyatakan pada nilai kos dan tidak disusutnilaikan sehingga aset berkenaan sedia untuk digunakan.

2 DASAR PERAKAUNAN (SAMB)

d) Aset Tidak Ketara

Aset Tidak Ketara ialah aset bukan kewangan yang dapat dikenal pasti tanpa kewujudan secara fizikal dan tidak mempunyai bentuk. Jenis aset tidak ketara termasuklah hak cipta, lesen, paten dan harta intelek. Aset Tidak Ketara dikira berasaskan kaedah garis lurus di atas kos dan dilunaskan pada kadar yang berikut:-

Pangkalan Data	5 tahun
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e) Rosot Nilai Aset Bukan Kewangan

i. Aset Penjanaan Tunai

Pada setiap tarikh penyata kedudukan kewangan, ASM mengkaji semula nilai dibawa bagi aset-asetnya untuk menentukan sama ada terdapat sebarang petunjuk kemerosotan nilai. Jika sebarang petunjuk wujud, rosot nilai dikira dengan membandingkan nilai dibawa aset dengan amaun boleh pulih. Amaun boleh pulih adalah nilai tertinggi di antara nilai saksama ditolak kos untuk dijual dan nilai dalam penggunaan.

Dalam menentukan nilai dalam penggunaan, aliran tunai masa hadapan akan didiskaun kepada nilai semasanya menggunakan kadar diskaun sebelum cukai yang menggambarkan nilai pasaran semasa nilai masa wang dan risiko khusus kepada aset tersebut. Di dalam menentukan nilai saksama ditolak kos untuk dijual pula, urus niaga pasaran terkini akan diambil kira, jika ada. Jika tiada urus niaga pasaran terkini berlaku, model penilaian yang sesuai hendaklah digunakan.

Kerugian kemerosotan diiktiraf sebagai perbelanjaan dalam lebihan atau kurangan serta merta apabila nilai dibawa aset melebihi amaun boleh pulihnya, melainkan aset tersebut dibawa pada jumlah penilaian semula. Sebarang kerugian kemerosotan aset yang dinilai semula akan dikurangkan setakat lebihan penilaian semula yang masih belum digunakan bagi aset yang sama.

ii. Aset Penjanaan Bukan Tunai

ASM akan menilai pada setiap tarikh pelaporan sama ada terdapat petunjuk bahawa aset penjanaan bukan tunai mungkin terjejas. Jika sebarang petunjuk wujud, maka ASM akan membuat anggaran ke atas jumlah perkhidmatan boleh pulih aset. Jumlah perkhidmatan boleh pulih aset adalah nilai tertinggi di antara nilai saksama ditolak kos untuk dijual dan nilai dalam penggunaan.

Kerugian kemerosotan diiktiraf sebagai perbelanjaan dalam lebihan atau kurangan serta merta apabila nilai dibawa aset melebihi jumlah perkhidmatan boleh pulihnya.

Dalam menentukan nilai sedang digunakan, ASM telah menggunakan pendekatan kos penggantian disusut nilai. Di bawah pendekatan ini, baki nilai semasa aset berpotensi ditentukan sebagai kos penggantian disusut nilai bagi aset. Perbelanjaan susut nilai diukur dengan mengambil kira kos penggantian aset tersebut, ditolak susut nilai terkumpul yang dikira berdasarkan kos tersebut, untuk menggambarkan potensi perkhidmatan aset yang telah digunakan atau yang telah tamat tempoh.

2 DASAR PERAKAUNAN (SAMB)

e) Rosot Nilai Aset Bukan Kewangan (Samb.)

ii. Aset Penjanaaan Bukan Tunai (Samb.)

Dalam menentukan nilai saksama ditolak kos untuk dijual pula, harga aset dalam perjanjian yang mengikat akan dilaraskan bagi menentukan harga pelupusan aset tersebut. Jika tiada perjanjian yang mengikat, tetapi aset tersebut diniagakan di pasaran secara aktif, maka nilai saksama ditolak kos untuk dijual adalah ditentukan dengan merujuk kepada nilai pasaran terkini ditolak kos pelupusan. Jika tiada perjanjian jual mengikat atau pasaran aktif bagi aset, ASM menentukan nilai saksama ditolak kos untuk menjual berdasarkan maklumat terbaik yang ada.

Bagi setiap aset, penilaian dibuat pada setiap tarikh laporan sama ada terdapat sebarang petunjuk yang sebelum ini kerugian rosot nilai yang diiktiraf mungkin tidak lagi wujud atau telah berkurangan. Jika petunjuk sedemikian wujud, ASM menganggarkan jumlah perkhidmatan boleh pulih aset. Kerugian kemerosotan nilai yang diiktiraf sebelumnya dibalikkan hanya jika terdapat perubahan dalam andaian yang digunakan untuk menentukan jumlah perkhidmatan boleh pulih aset sejak kerugian kemerosotan nilai terakhir diiktiraf. Pembalikan adalah terhad setakat nilai dibawa aset tidak melebihi jumlah perkhidmatan boleh pulih atau tidak melebihi nilai dibawa yang mungkin setelah susut nilai terkumpul seperti tiada kerugian kemerosotan nilai diiktiraf bagi aset tersebut dalam tahun sebelumnya.

f) Aset Kewangan

Aset kewangan diiktiraf dalam penyata kedudukan kewangan apabila ASM menjadi pihak kepada peruntukan kontrak instrumen.

Pada pengiktirafan awal, aset kewangan adalah diukur pada nilai saksama, termasuk kos urus niaga untuk aset kewangan yang tidak diukur pada nilai saksama menerusi lebihan atau kurangan, yang terlibat secara langsung dalam menerbitkan aset kewangan.

Selepas pengiktirafan awal, aset kewangan akan dikelaskan kepada salah satu daripada empat kategori aset kewangan iaitu aset kewangan diukur pada nilai saksama menerusi lebihan atau kurangan, pinjaman dan belum terima, pelaburan dipegang hingga matang dan aset kewangan sedia untuk dijual.

Pembelian atau penjualan aset kewangan yang memerlukan penyerahan aset dalam tempoh masa yang ditetapkan oleh peraturan atau konvensyen di dalam pasaran akan diiktiraf pada tarikh transaksi itu dibuat, iaitu tarikh di mana ASM membuat komitmen untuk membeli atau menjual aset tersebut.

ASM hanya mempunyai kategori aset kewangan seperti berikut:

i. Pinjaman dan Belum Terima

Pinjaman dan belum terima adalah aset kewangan bukan derivatif dengan bayaran tetap atau bayaran yang boleh ditentukan yang tidak disebut harga dalam pasaran aktif. Selepas pengukuran awal, aset kewangan tersebut kemudiannya diukur pada kos dilunaskan menggunakan kaedah faedah berkesan dan ditolak rosot nilai. Kos dilunaskan dikira dengan mengambil kira apa-apa diskaun atau premium atas pembelian aset tersebut serta yuran atau kos yang merupakan sebahagian daripada kadar faedah berkesan. Kerugian yang timbul daripada kemerosotan nilai diiktiraf dalam lebihan atau kurangan.

2 DASAR PERAKAUNAN (SAMB)

f) Aset Kewangan (Samb.)

ii. Pelaburan Dipegang Hingga Matang

Aset kewangan bukan derivatif dengan tempoh matang pembayaran tetap atau boleh ditentukan dan tetap diklasifikasikan sebagai dipegang untuk matang apabila ASM mempunyai niat positif dan keupayaan untuk memegang sehingga matang. Selepas pengukuran awal, dipegang hingga matang pelaburan diukur pada kos yang dilunaskan menggunakan kaedah faedah berkesan dan ditolak rosot nilai. Kos pelunasan dikira dengan mengambil kira apa-apa diskaun atau premium atas pengambilalihan dan yuran atau kos yang merupakan sebahagian daripada kadar faedah efektif. Kerugian yang timbul daripada kemerosotan nilai diiktiraf dalam penyata prestasi kewangan.

iii. Rosot Nilai Aset Kewangan

Pada akhir setiap tempoh pelaporan, ASM akan menilai sama ada terdapat sebarang bukti objektif bahawa aset kewangan perlu untuk dirosot nilai. Bukti objektif termasuk:

- a. kesukaran kewangan yang ketara oleh peminjam; atau
- b. pembayaran tertunggak; atau
- c. kemungkinan bahawa peminjam akan mufli; atau
- d. data yang menunjukkan bahawa terdapat penurunan di dalam anggaran aliran tunai masa hadapan.

Bagi kategori aset kewangan yang diukur pada kos dilunaskan, jika tiada bukti objektif wujud bagi individu yang ketara, maka semua aset dalam ASM yang mempunyai ciri-ciri risiko yang serupa tidak kira sama ada ia ketara atau tidak, akan dinilai secara kolektif untuk menentukan sama ada ia perlu dibuat rosot nilai.

Kerugian rosot nilai, berhubung dengan aset kewangan yang diukur pada kos dilunaskan, diukur sebagai perbezaan di antara nilai dibawa aset berkenaan dan nilai semasa anggaran aliran tunai yang didiskaunkan pada kadar faedah berkesan yang asal. Nilai dibawa aset tersebut akan dikurangkan melalui penggunaan akaun elauan. Sebarang kerugian rosot nilai diiktiraf dalam lebihan atau kurangan dengan serta-merta.

iv. Penyahiktirafan Aset Kewangan

Aset kewangan dinyahiktiraf apabila hak kontrak untuk aliran tunai daripada aset kewangan tersebut tamat tempoh atau diselesaikan serta ASM telah memindahkan risiko dan ganjaran pemilikan aset kewangan yang ketara kepada pihak lain.

Pada penyahiktirafan aset kewangan secara keseluruhannya, perbezaan di antara nilai bawaan dan jumlah pertimbangan diterima diiktiraf dalam lebihan atau kurangan dalam tempoh penyahiktirafan.

g) Tunai dan Kesetaraan Tunai

Penyata aliran tunai telah disediakan menggunakan kaedah tidak langsung. Tunai dan kesetaraan tunai terdiri daripada tunai di tangan dan di bank serta pelaburan berkecairan tinggi dengan bank berlesen dan institusi kewangan yang mempunyai tempoh matang dua belas bulan atau kurang yang sedia ditukar kepada amaun tunai yang diketahui dan tertakluk kepada risiko perubahan nilai yang tidak ketara.

2 DASAR PERAKAUNAN (SAMB)

h) Manfaat Kakitangan

i. Manfaat Kakitangan Jangka Pendek

ASM sebagai sebuah badan berkanun persekutuan menggunakan peraturan-peraturan perkhidmatan Jabatan Perkhidmatan Awam (JPA) yang diterima pakai oleh ASM dan dasar ASM sebagai panduan. Manfaat pekerja jangka pendek ini merangkumi gaji pokok, elaun-elaun tetap, elaun-elaun berubah, pelbagai cuti termasuk cuti tahunan dan kemudahan perubatan serta insurans.

Faedah kakitangan jangka pendek termasuk gaji, upah, elaun, sumbangan berkanun dan caruman keselamatan sosial dikira sebagai perbelanjaan dalam tahun di mana perkhidmatan berkaitan diberikan oleh pekerja. Cuti bergaji seperti cuti tahunan yang tidak dapat digunakan oleh pekerja boleh di bawa ke tahun hadapan perkhidmatan pekerja tersebut. Bagaimanapun, bagi cuti yang tidak layak di bawa ke tahun hadapan seperti cuti sakit, cuti tersebut hanya akan dikira apabila ketidakhadiran berlaku.

ii. Manfaat Selepas Perkhidmatan

Kumpulan Wang Simpanan Pekerja (KWSP)

ASM membuat caruman KWSP mengikut kadar dan syarat yang ditetapkan oleh KWSP. Kadar caruman yang digunapakai oleh ASM adalah 12% dan 13% bagi kakitangan di bawah 60 tahun, manakala bagi kakitangan berumur 60 tahun ke atas, kadar caruman yang digunapakai adalah 4% dan 6%. Kadar caruman ini juga terpakai bagi kakitangan tetap yang memilih caruman KWSP.

Kumpulan Wang Persaraan Diperbadankan (KWAP)

ASM juga membuat caruman kepada KWAP bagi kakitangan tetap yang memilih caruman pencen. Kadar caruman yang digunapakai adalah mengikut seperti yang ditetapkan oleh KWAP iaitu 17.5%.

iii. Manfaat Cuti Rehat dan Ganjaran Kakitangan

Kakitangan Tetap

Bagi kakitangan tetap ASM sama ada memilih skim berpencen mahupun KWSP akan mendapat Gantian Cuti Rehat (GCR) apabila tiba umur persaraan mereka. GCR ini adalah berdasarkan Pekeliling Perkhidmatan yang dikeluarkan oleh Jabatan Perkhidmatan Awam (JPA) yang diguna pakai oleh ASM.

Gantian Cuti Rehat adalah dikira berdasarkan formula berikut:

$1/30 \times \text{gaji} + \text{imbuhan tetap akhir yang diterima} \times \text{bilangan hari cuti rehat yang dikumpul}$
(tertakluk kepada had maksimum 180 hari)

Imbuhan yang diambil kira adalah:

- Imbuhan Tetap Perumahan (ITP)
- Imbuhan Tetap Khidmat Awam (ITKA)/Keraian

2 DASAR PERAKAUNAN (SAMB)

h) Manfaat Kakitangan (Samb.)

iii. Manfaat Cuti Rehat dan Ganjaran Kakitangan (Samb.)

Kakitangan Kontrak

ASM memberi ganjaran bagi setiap kontrak perkhidmatan *Contract of Service* (CoS) tertakluk kepada syarat kontrak. Kakitangan CoS ASM turut dibayar bagi cuti rehat yang tidak dapat dihabiskan dalam tempoh kontrak dengan maksimum 6 hari. Bayaran ganjaran dan GCR bagi kakitangan kontrak adalah mengikut terma dan syarat yang termaktub dalam pekeliling perkhidmatan awam.

i) Mengkontra Instrumen Kewangan

Aset kewangan dan liabiliti kewangan hanya dikontra jika, dan hanya jika, terdapat hak undang-undang mengimbangnya dan terdapat tujuan menyelesaikannya pada nilai bersih atau untuk merealisasikan aset dan menyelesaikan liabiliti secara serentak.

j) Maklumat Bajet

Bajet tahunan disediakan berdasarkan asas tunai. Memandangkan penyata kewangan disediakan menggunakan asas akrual, maka satu Penyata Perbandingan Bajet dan Sebenar disediakan secara berasingan. Penyata ini telah disediakan menggunakan asas penyediaan bajet tahunan dan hanya merujuk kepada bajet mengurus sahaja. Bajet yang dibentangkan adalah bagi rujukan pihak ASM sahaja. Bajet ini telah diluluskan oleh Majlis ASM.

k) Peruntukan dan Liabiliti

Peruntukan diiktiraf apabila ASM mempunyai obligasi semasa (perundangan atau konstruktif) hasil dari peristiwa lalu, terdapat kemungkinan bahawa aliran keluar sumber yang mengandungi manfaat ekonomi perlu dilakukan untuk menyelesaikan obligasi dan jumlah obligasi boleh dianggarkan dengan pasti. Apabila ASM menjangkakan beberapa atau semua peruntukan akan dibayar balik, perbelanjaan berkaitan peruntukan dibentangkan dalam lebihan atau kurangan daripada sebarang pembayaran balik.

l) Pihak Berkaitan

ASM menganggap pihak berkaitan sebagai orang atau entiti dengan keupayaan untuk mengenakan kawalan secara individu atau bersama, atau untuk melaksanakan pengaruh penting ke atas ASM, atau sebaliknya. Kakitangan utama pihak pengurusan, Presiden, dan ahli-ahli Majlis ASM dianggap sebagai pihak berkaitan.

m) Liabiliti Luar Jangka dan Aset Luar Jangka

Liabiliti luar jangka adalah obligasi semasa yang tidak diiktiraf kerana tiada kebarangkalian aliran keluar sumber akan diperlukan untuk menyelesaikan obligasi atau dalam kes yang sangat jarang berlaku di mana liabiliti tidak dapat diiktiraf kerana ia tidak boleh diukur secara pasti. Liabiliti luar jangka tidak diiktiraf tetapi didedahkan dalam penyata kewangan. Obligasi yang muncul dari peristiwa yang lepas, yang kewujudannya hanya dapat disahkan melalui berlakunya atau tidak berlakunya satu atau lebih peristiwa akan datang yang belum pasti, tidak di bawah kawalan ASM keseluruhan juga didedahkan sebagai liabiliti luar jangka melainkan kebarangkalian aliran keluar sumber ekonomi adalah kecil.

2 DASAR PERAKAUNAN (SAMB)

m) Liabiliti Luar Jangka dan Aset Luar Jangka (Samb.)

Aset luar jangka adalah aset yang berkemungkinan wujud dari peristiwa lalu yang kewujudannya akan hanya disahkan apabila berlaku atau tidak berlakunya satu atau lebih peristiwa yang tidak pasti pada masa hadapan yang bukan dalam kawalan penuh ASM. ASM tidak mengiktiraf aset luar jangka dalam penyata kewangan tetapi mendedahkan kewujudannya di mana aliran masuk manfaat ekonomi adalah berkemungkinan, tetapi tidak pasti.

n) Liabiliti Kewangan

Liabiliti kewangan diiktiraf dalam penyata kedudukan kewangan apabila ASM menjadi pihak kepada peruntukan kontrak instrumen.

Pada pengiktirafan awal, liabiliti kewangan adalah diukur pada nilai saksama, termasuk kos urus niaga untuk liabiliti kewangan yang tidak diukur pada nilai saksama menerusi lebihan atau kurangan, yang terlibat secara langsung di dalam mengisui liabiliti kewangan.

Selepas pengiktirafan awal, liabiliti kewangan dikelaskan kepada salah satu daripada dua kategori liabiliti kewangan iaitu liabiliti kewangan diukur pada nilai saksama menerusi lebihan atau kurangan, pinjaman dan belum bayar.

ASM mempunyai kategori liabiliti kewangan seperti berikut :

Pinjaman dan Belum Bayar

Selepas pengiktirafan awal, pinjaman dan belum bayar adalah diukur pada kos dilunaskan menggunakan kaedah faedah berkesan. Keuntungan atau kerugian diiktiraf di dalam lebihan atau kurangan apabila liabiliti kewangan dinyahiktiraf atau dirosot nilai.

Kaedah faedah berkesan adalah kaedah untuk mengira kos dilunaskan liabiliti kewangan dan untuk memperuntukan perbelanjaan faedah ke atas tempoh yang berkaitan. Kadar faedah berkesan adalah kadar diskaun anggaran pembayaran tunai masa depan yang tepat menerusi jangka hayat liabiliti kewangan atau, apabila sesuai, tempoh yang lebih singkat, dengan nilai dibawa liabiliti kewangan tersebut.

Liabiliti kewangan dinyahiktiraf apabila obligasi yang dinyatakan dalam kontrak telah dilepaskan, dibatalkan atau tamat hayat.

Sebarang perbezaan di antara nilai dibawa liabiliti kewangan yang dinyahiktiraf dan pertimbangan dibayar adalah diiktiraf di dalam lebihan atau kurangan dalam tempoh penyahiktirafan.

o) Pajakan

Pajakan hartanah, loji dan peralatan adalah dikelaskan sebagai pajakan kewangan apabila sebahagian besar risiko dan ganjaran dengan pemilikan harta, tetapi bukan pemilikan yang sah diisi undang-undang, dipindahkan kepada ASM.

ASM pada awalnya mengiktiraf hak penggunaan dan obligasinya di bawah pajakan kewangan sebagai aset dan liabiliti dalam penyata kedudukan kewangan pada amaun yang sama dengan nilai saksama aset yang dipajak atau, jika yang lebih rendah, nilai semasa bayaran pajakan minimum, ditentukan pada permulaan pajakan. Sebarang kos langsung awal ditambah kepada amaun yang diiktiraf sebagai aset.

2 DASAR PERAKAUNAN (SAMB)

o) Pajakan (Samb.)

Bayaran pajakan minimum adalah dibahagikan antara caj kewangan dan pengurangan tanggungan tertunggak dengan menggunakan kaedah faedah efektif. Caj kewangan dirosot nilai adalah diperuntukkan pada setiap tempoh sepanjang tempoh pajakan untuk menghasilkan kadar faedah tempoh yang tetap ke atas baki liabiliti.

Dasar susut nilai bagi aset pajakan adalah konsisten dengan aset yang boleh disusut nilai yang dimiliki. Jika tiada kepastian yang munasabah bahawa ASM akan mendapat pemilikan menjelang akhir tempoh pajakan, aset pajakan disusut nilai sepenuhnya dalam jangka pajakan dan hayat bergunanya, yang mana lebih singkat. Pada setiap tarikh pelaporan, ASM menilai sama ada harta pajakan di bawah pajakan kewangan perlu dirosot nilai.

Pajakan operasi adalah diiktiraf sebagai perbelanjaan dalam untung atau rugi pada garis lurus sepanjang tempoh pajakan. Manfaat agregat insentif yang disediakan oleh pemberi pajak adalah diiktiraf sebagai pengurangan daripada perbelanjaan sewa sepanjang tempoh pajakan menggunakan kaedah garis lurus.

p) Pertimbangan Perakaunan Kritikal dan Sumber Utama Ketidakpastian Anggaran

i. Pertimbangan Perakaunan Kritikal

Tiada sebarang pertimbangan perakaunan kritikal yang mempunyai kesan ketara ke atas jumlah yang diiktiraf di dalam penyata kewangan.

ii. Sumber Utama Ketidakpastian Anggaran

Anggaran utama berkenaan masa hadapan, dan lain-lain sumber utama ketidakpastian anggaran pada tarikh pelaporan, yang mempunyai risiko ketara yang akan menyebabkan pelarasan penting terhadap nilai dibawa aset dan liabiliti di dalam tahun kewangan seterusnya.

Kerugian Rosot Nilai bagi Akaun Belum Terima

ASM menilai pada setiap tarikh pelaporan sama ada terdapat sebarang bukti objektif bahawa aset kewangan terjejas. Untuk menentukan sama ada terdapat bukti objektif rosot nilai, ASM menganggap faktor seperti ketidakmampuan bayar siberhutang dan keingkaran atau kelewatan pembayaran yang ketara. Jika terdapat bukti objektif kemerosotan nilai, jumlah dan masa aliran tunai masa depan dianggarkan berdasarkan sejarah pengalaman kerugian untuk aset yang mempunyai ciri-ciri risiko kredit yang serupa.

Perubahan Anggaran Jangka Hayat bagi Hartanah, Loji dan Peralatan

Semua hartanah, loji dan peralatan disusut nilaikan mengikut kaedah garis lurus sepanjang jangka hayat aset tersebut. Pengurusan menganggarkan jangka hayat hartanah, loji dan peralatan dalam tempoh masa lima (5) sehingga enam puluh (60) tahun. Perubahan dalam anggaran corak penggunaan aset dan pembangunan teknologi boleh memberi kesan kepada jangka hayat dan nilai sisa aset tersebut. Ini akan menyebabkan susut nilai aset pada masa hadapan akan disemak semula.

2 DASAR PERAKAUNAN (SAMB)

q) Cukai

Perbelanjaan cukai pendapatan bagi entiti yang dikawal yang diiktiraf di dalam penyata prestasi kewangan adalah terdiri daripada cukai semasa dan cukai tertunda. Cukai semasa adalah jumlah jangkaan cukai pendapatan yang perlu dibayar berhubung dengan keuntungan yang boleh dicukai bagi tahun semasa dan dikira menggunakan kadar cukai yang telah digubal atau sebahagian besarnya digubal menjelang tarikh pelaporan.

Cukai yang perlu dibayar ke atas keuntungan boleh dicukai bagi tempoh semasa dan lalu diiktiraf di dalam liabiliti semasa setakat yang tidak terbayar. Jika amaun yang dibayar berkenaan dengan tempoh semasa dan lalu melebihi amaun yang perlu dibayar bagi tempoh itu, lebihan tersebut diiktiraf di dalam aset semasa.

Liabiliti dan aset cukai semasa diimbangi hanya apabila ASM mempunyai hak yang sah di sisi undang-undang untuk mengimbangkan amaun dan berhasrat sama ada untuk menyelesaikan pada asas bersih, atau merealisasikan aset dan menyelesaikan liabiliti secara serentak.

Cukai tertunda diperuntukkan menggunakan kaedah liabiliti, ke atas perbezaan sementara pada tarikh penyata kedudukan kewangan di antara asas cukai aset dan liabiliti dan nilai dibawa di dalam penyata kewangan. Pada dasarnya, liabiliti cukai tertunda diiktiraf bagi semua perbezaan sementara boleh cukai. Aset cukai tertunda pula diiktiraf bagi perbezaan sementara boleh ditolak, kerugian cukai belum digunakan dan kredit cukai yang tidak digunakan pada tahap di mana ia berkemungkinan bahawa keuntungan boleh dicukai pada masa hadapan boleh digunakan. Cukai tertunda tidak diiktiraf jika perbezaan sementara timbul daripada muhibah atau muhibah negatif atau daripada pengiktirafan awal sesuatu aset atau liabiliti dalam urus niaga yang bukan kombinasi perniagaan dan pada masa urus niaga, tidak menjejaskan keuntungan perakaunan atau keuntungan boleh cukai.

Cukai tertunda dikira pada kadar cukai yang dijangka akan digunakan dalam tempoh di mana aset direalisasi atau liabiliti diselesaikan, berdasarkan kadar cukai yang telah digubal atau digubal sebahagian besarnya pada tarikh pelaporan. Cukai tertunda diiktiraf di dalam penyata prestasi kewangan, kecuali apabila ia timbul daripada urus niaga yang diiktiraf secara langsung dalam ekuiti, di mana cukai tertunda juga diiktiraf secara langsung dalam ekuiti, atau apabila ia timbul daripada kombinasi perniagaan yang merupakan pengambilalihan, dalam mana cukai tertunda dimasukkan ke dalam muhibah yang terhasil dan muhibah negatif.

3 WANG TUNAI DAN BAKI DI BANK

	2024 RM	2023 RM
Tunai di Tangan	4,763	4,342
Baki di Bank	3,323,387	2,986,113
	<u>3,328,150</u>	<u>2,990,455</u>

4 SIMPANAN TETAP

	2024 RM	2023 RM
<u>ASM</u>		
Simpanan Tetap	15,302,082	14,399,335
<u>Malaysia Science Endowment (MSE)</u>		
Simpanan Tetap	260,103,671	250,000,000
	<u>275,405,753</u>	<u>264,399,335</u>

Simpanan tetap dibuat untuk pelbagai tempoh antara 12 bulan atau kurang bergantung kepada keperluan tunai segera ASM dan memperoleh faedah pada Kadar Deposit Jangka Pendek. Purata Wajaran Kadar Faedah Efektif ASM pada 31 Disember 2024 ialah 3.75% setahun (2023: 3.87% setahun) dan Purata Wajaran Kadar Faedah Efektif MSE pada 31 Disember 2024 ialah 3.57% setahun (2023: 4.12% setahun).

Malaysia Science Endowment (MSE) adalah geran padanan yang diterima berjumlah RM 250,000,000.

ASM telah dilantik sebagai Agensi Pelaksana bagi MSE oleh Parlimen di bawah bidang kuasa Kementerian Sains, Teknologi dan Inovasi (MOSTI) sejak 4 Ogos 2022 sebagai Agensi Pelaksana MSE.

ASM bertanggungjawab untuk menjana dan mengurus dana-dana alternatif.

ASM menempatkan dana tersebut di dalam simpanan tetap, dan faedah keuntungan terkumpul daripada pelaburan direkodkan secara berasingan sebagai liabiliti berjumlah RM10,241,348 (2023 : RM113,150).

5 URUS NIAGA PERTUKARAN BELUM TERIMA

	2024 RM	2023 RM
Urus Niaga Pertukaran Belum Terima	140,696	26,470
	<u>140,696</u>	<u>26,470</u>

Urus Niaga Pertukaran Belum Terima tidak dikenakan faedah dan secara umumnya tempoh yang terlibat dari 1 hari ke 30 hari. Akaun Belum Terima diiktiraf pada nilai saksama semasa pengiktirafan awal. Amaun dijangka boleh pulih dalam masa 12 bulan, akan diiktiraf pada amaun invois asal. Jika tidak, ia akan diiktiraf pada Nilai Kini amaun invois asal.

5 URUS NIAGA PERTUKARAN BELUM TERIMA (SAMB)

Analisis pengumuran akaun belum terima adalah seperti berikut:

	2024 RM	2023 RM
Tidak melebihi tempoh dan tidak terjejas	140,696	-
1 hingga 3 bulan	-	26,470
	<u>140,696</u>	<u>26,470</u>

6 AKAUN BELUM TERIMA LAIN

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
Bayaran Terdahulu	426,108	416,064
Cukai boleh diperolehi semula	20,062	-
Pendapatan Terakru	56,521	138,857
Faedah Terakru	<u>261,691</u>	<u>214,448</u>
	<u>764,382</u>	<u>769,369</u>

7 HARTANAH, LOJI DAN PERALATAN

	Pada 01 Januari 2024 RM	Tambahan RM	Pelupusan/ Pindahan RM	Pada 31 Disember 2024 RM
<u>PADA NILAI KOS</u>				
Bangunan	2,170,000	-	-	2,170,000
Kenderaan	911,158	10,385	-	921,543
Peralatan Pejabat	1,151,467	266,348	(59,179)	1,358,636
Komputer	859,336	55,706	(155,529)	759,513
Alat Telekomunikasi	4,699	-	-	4,699
Ubahsuai Pejabat - Jalan Tun Ismail	4,686,936	-	-	4,686,936
Ubahsuai Pejabat - MATRADE	539,016	-	-	539,016
	<u>10,322,612</u>	<u>332,439</u>	<u>(214,708)</u>	<u>10,440,343</u>

	Pada 01 Januari 2024 RM	Tambahan RM	Pelupusan/ Pindahan RM	Pada 31 Disember 2024 RM
<u>SUSUT NILAI TERKUMPUL</u>				
Bangunan	434,000	36,167	-	470,167
Kenderaan	417,660	129,068	-	546,728
Peralatan Pejabat	810,698	123,376	(59,162)	874,912
Komputer	472,506	113,553	(45,549)	540,510
Alat Telekomunikasi	705	939	-	1,644
Ubahsuai Pejabat - Jalan Tun Ismail	3,944,051	109,801	-	4,053,852
Ubahsuai Pejabat - MATRADE	389,289	149,726	-	539,015
	<u>6,468,909</u>	<u>662,630</u>	<u>(104,711)</u>	<u>7,026,828</u>

7 HARTANAH, LOJI DAN PERALATAN (SAMB)

	Pada 31 Disember 2024 RM
<u>AMAUN BAWAAN BERSIH</u>	
Bangunan	1,699,833
Kenderaan	374,815
Peralatan Pejabat	483,724
Komputer	219,003
Alat Telekomunikasi	3,055
Ubahsuai Pejabat - Jalan Tun Ismail	633,084
Ubahsuai Pejabat - MATRADE	<u>1</u>
	<u>3,413,515</u>

	Pada 01 Januari 2023 RM	Tambahan RM	Pelupusan/ Pindahan RM	Pada 31 Disember 2023 RM
<u>PADA NILAI KOS</u>				
Bangunan	2,170,000	-	-	2,170,000
Kenderaan	662,579	396,880	(148,301)	911,158
Peralatan Pejabat	926,794	252,348	(27,675)	1,151,467
Komputer	1,439,023	209,629	(789,316)	859,336
Alat Telekomunikasi	-	4,699	-	4,699
Ubahsuai Pejabat - Jalan Tun Ismail	4,645,922	41,014	-	4,686,936
Ubahsuai Pejabat - MATRADE	539,016	-	-	539,016
	<u>10,383,334</u>	<u>904,570</u>	<u>(965,292)</u>	<u>10,322,612</u>

	Pada 01 Januari 2023 RM	Tambahan RM	Pelupusan/ Pindahan RM	Pada 31 Disember 2023 RM
<u>SUSUT NILAI TERKUMPUL</u>				
Bangunan	397,834	36,166	-	434,000
Kenderaan	470,658	95,302	(148,300)	417,660
Peralatan Pejabat	730,730	107,636	(27,668)	810,698
Komputer	386,458	288,272	(202,224)	472,506
Alat Telekomunikasi	-	705	-	705
Ubahsuai Pejabat - Jalan Tun Ismail	3,834,196	109,855	-	3,944,051
Ubahsuai Pejabat - MATRADE	209,617	179,672	-	389,289
	<u>6,029,493</u>	<u>817,608</u>	<u>(378,192)</u>	<u>6,468,909</u>

7 HARTANAH, LOJI DAN PERALATAN (SAMB)

	Pada 31 Disember 2023 RM
AMAUN BAWAAN BERSIH	
Bangunan	1,736,000
Kenderaan	493,498
Peralatan Pejabat	340,769
Komputer	386,830
Alat Telekomunikasi	3,994
Ubahsuai Pejabat - Jalan Tun Ismail	742,885
Ubahsuai Pejabat - MATRADE	149,727
	<u>3,853,703</u>

8 ASET TIDAK KETARA

	2024 RM	2023 RM
PADA NILAI KOS		
Pada 01 Januari	520,000	-
Tambahan	-	520,000
Baki pada 31 Disember	<u>520,000</u>	<u>520,000</u>
PELUNASAN TERKUMPUL		
Pada 01 Januari	52,000	-
Tambahan	104,000	52,000
Baki pada 31 Disember	<u>156,000</u>	<u>52,000</u>
AMAUN BAWAAN BERSIH	<u>364,000</u>	<u>468,000</u>

9 KERJA DALAM KEMAJUAN

	2024 RM	2023 RM
Baki pada 01 Januari	-	581,394
Pindahan ke Hartanah, Loji dan Peralatan	-	(140,394)
Pindahan ke Aset Tidak Ketara	-	(441,000)
Baki pada 31 Disember	<u>-</u>	<u>-</u>

10 URUS NIAGA PERTUKARAN BELUM BAYAR

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
Perbelanjaan Terakru	761,137	1,169,752
Zakat Wakalah	-	12,367
Deposit Diterima	-	20,000
	<u>761,137</u>	<u>1,202,119</u>
Faedah Malaysia Science Endowment (MSE)	<u>10,241,348</u>	<u>113,150</u>
	<u>11,002,485</u>	<u>1,315,269</u>

ASM telah dilantik sebagai Agensi Pelaksana bagi MSE oleh Parlimen di bawah bidang kuasa Kementerian Sains, Teknologi dan Inovasi (MOSTI) sejak 4 Ogos 2022. Sebagai Agensi Pelaksana MSE, ASM bertanggungjawab untuk menjana dan mengurus dana-dana alternatif.

ASM menempatkan dana tersebut di dalam simpanan tetap, dan keuntungan terkumpul daripada pelaburan direkodkan secara berasingan sebagai liabiliti yang perlu dibayar kepada kerajaan.

11 PERUNTUKAN MANFAAT PEKERJA

	2024 RM	2023 RM
Baki pada 01 Januari	368,992	281,870
Tambah : Peruntukan Tahun Semasa	429,236	362,136
Tolak : Pembayaran Tahun Semasa	(315,767)	(275,014)
Pada 31 Disember	<u>482,461</u>	<u>368,992</u>
	2024 RM	2023 RM
Liabiliti Semasa	380,907	290,526
Liabiliti Bukan Semasa	101,554	78,466
	<u>482,461</u>	<u>368,992</u>

12 TERIMAAN TERDAHULU

	2024 RM	2023 RM
Baki pada 01 Januari	133,409	386,812
Tambahan	30,718	400,985
Caj Pengurusan Program	-	(60,690)
Lebihan Baki Projek	-	(61,822)
Pembelian Aset	-	(3,300)
Perbelanjaan	(83,066)	(528,576)
Baki pada 31 Disember	<u>81,061</u>	<u>133,409</u>

12 TERIMAAN TERDAHULU (SAMB)

Pecahan terimaan terdahulu adalah seperti berikut:

	2024 RM	2023 RM
<i>Non-Radioactive Rare Earths Industry (NRREE)</i>	70,561	122,909
<i>Position Paper on New Horizon For STI (NHSTI)</i>	10,500	10,500
	<u>81,061</u>	<u>133,409</u>

Terimaan Terdahulu adalah sesuatu peruntukan yang diterima oleh ASM di mana ASM memainkan peranan sebagai rakan strategik dan/atau penyedia perkhidmatan bagi sesuatu projek. Peruntukan yang diterima termasuk penajaan daripada sektor korporat atau organisasi. Projek ini boleh dilaksanakan sebagai program ASM atau projek kolaborasi yang spesifikasinya ditentukan oleh organisasi yang memberi dana. Dalam hal ini, ASM terikat dengan terma rujukan dan tempoh pelaksanaan program seperti yang diihuraikan dalam perjanjian atau surat lantikan.

13 GERAN TERTUNDA

	2024 RM	2023 RM
Baki pada 01 Januari	5,345,140	9,837,210
Tambahan	4,837,330	1,503,225
Pemulangan Peruntukan	(159,626)	(150,704)
Caj Pengurusan Program	(843,328)	(232,284)
Pelarasan	(20,000)	-
Pembelian Aset	-	(79,000)
Perbelanjaan	<u>(2,503,653)</u>	<u>(5,533,307)</u>
Baki pada 31 Disember	<u>6,655,863</u>	<u>5,345,140</u>

Geran tertunda adalah peruntukan yang diterima daripada Kerajaan Malaysia bagi suatu objektif yang khusus. ASM adalah terikat dengan terma rujukan dan tempoh pelaksanaan program seperti yang diihuraikan dalam perjanjian atau surat lantikan.

Geran tertunda dianalisis seperti berikut:

	2024 RM	2023 RM
Liabiliti Bukan Semasa	<u>6,655,863</u>	<u>5,345,140</u>
	<u>6,655,863</u>	<u>5,345,140</u>

13 GERAN TERTUNDA (SAMB)

Pecahan peruntukan geran tertunda adalah seperti berikut:

	2024 RM	2023 RM
Geran Yang Tidak Dilunaskan		
<i>Malaysian Collaborative Network Platform for Disruptive Innovation (i-CONNECT)</i>	1,427,176	1,509,016
<i>Strategic Research Fund (SRF-APP) – Fintech In Islamic Finance</i>	945,443	56,354
<i>Strategic Research Fund (SRF-APP) – Halal Supply Chain</i>	136,858	652,358
<i>Strategic Research Fund (SRF-APP) – Digital Healthcare And Wellness</i>	626,541	35,913
<i>MOE Studies</i>	128,405	128,405
<i>Development of RDCIE Roadmap</i>	-	181,046
	<u>3,264,423</u>	<u>2,563,092</u>

Geran Yang Dilunaskan

<i>Study on Environmental Quality Act</i>	769,304	769,304
<i>Water Sector Transformation 2040 (WST 2040)</i>	1,150,092	2,012,744
<i>National Education Reform</i>	1,245,497	-
<i>Malaysia Blue Economy Blueprint</i>	76,547	-
<i>National RDCIE Action Plan</i>	150,000	-
	<u>3,391,440</u>	<u>2,782,048</u>

JUMLAH GERAN TERTUNDA

	<u>6,655,863</u>	<u>5,345,140</u>
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14 GERAN TERTUNDA - PEJABAT ANTARABANGSA

	2024 RM	2023 RM
Baki pada 01 Januari	980,963	776,196
Tambahan	2,139,521	2,133,046
Pembelian Aset	-	(48,678)
Perbelanjaan	<u>(2,069,598)</u>	<u>(1,879,601)</u>
Baki pada 31 Disember	<u>1,050,886</u>	<u>980,963</u>

Geran tertunda dianalisis seperti berikut:

	2024 RM	2023 RM
Liabiliti Bukan Semasa	<u>1,050,886</u>	<u>980,963</u>
	<u>1,050,886</u>	<u>980,963</u>

14 GERAN TERTUNDA - PEJABAT ANTARABANGSA (SAMB)

Pecahan peruntukan geran tertunda adalah seperti berikut:

	2024 RM	2023 RM
ISC ROAP	-	139,321
ISTIC 3.0	1,050,886	823,021
UNESCO	-	18,621
	<u>1,050,886</u>	<u>980,963</u>

International Science Council Regional Office for Asia and the Pacific (ISC ROAP)

	2024 RM	2023 RM
Baki pada 01 Januari	139,321	776,196
Perbelanjaan	<u>(139,321)</u>	<u>(636,875)</u>
Baki pada 31 Disember	<u>-</u>	<u>139,321</u>

International Science Council (ISC) memainkan peranan di peringkat global sebagai pemangkin dengan mengadakan persidangan kepakaran saintifik, memberi nasihat dan input mengenai isu-isu yang menjadi keutamaan sains dan masyarakat. ISC telah dilancarkan pada 2018 berikutan penggabungan International Council for Science (ICSU) yang telah ditubuhkan pada 1931, dan International Social Science Council (ISSC) yang telah ditubuhkan pada 1952.

International Science, Technology and Innovation Centre (ISTIC)

	2024 RM	2023 RM
Baki pada 01 Januari	823,021	-
Tambahan	2,139,521	2,012,803
Pemindahan baki projek UNESCO	18,621	-
Pembelian Aset	-	(48,678)
Perbelanjaan	<u>(1,930,277)</u>	<u>(1,141,104)</u>
Baki pada 31 Disember	<u>1,050,886</u>	<u>823,021</u>

ISTIC merupakan pusat UNESCO kategori II yang dihos oleh Kerajaan Malaysia sejak 26 Mac 2009. Kerajaan Malaysia dan UNESCO telah bersetuju untuk memperbaharui perjanjian untuk menghos ISTIC selama enam tahun sehingga 2027. Sehubungan itu, ASM sebagai hos mewakili Kerajaan Malaysia, juga telah menandatangani perjanjian berasingan dengan UNESCO. Kos operasi dan program ISTIC dibiayai oleh Kerajaan Malaysia melalui geran operasi ASM.

Matlamat ISTIC adalah untuk menyumbang ke arah pencapaian objektif program strategik UNESCO khususnya menggalakkan perhubungan antara sains, masyarakat dan dasar inklusif beretika untuk pembangunan mampan serta mengukuhkan dasar dan penglibatan STI dengan masyarakat; pembinaan kapasiti dalam sains dan teknologi melalui nasihat dasar dan pertukaran pengalaman dan amalan terbaik; memupuk kerjasama dalam kalangan kerajaan, ahli akademik dan industri bagi memudahkan pertukaran ilmu antara sektor awam dan swasta; menjalankan penyelidikan dan menyediakan pengetahuan, termasuk melalui sains terbuka dan teknologi baharu yang berpotensi; dan membangunkan rangkaian dan kerjasama penyelidikan dan pembangunan (R&D) dan program latihan di peringkat serantau dan antarabangsa serta memudahcara pertukaran dan penyebaran maklumat.

15 GERAN TERTUNDA PEMBANGUNAN

	2024 RM	2023 RM
Baki pada 01 Januari	250,897,924	48,023
Tambahan	2,865,000	254,050,000
Pelunasan ke Penyata Prestasi Kewangan	-	(103,205)
Aset	(3,238,071)	(3,096,894)
Perbelanjaan	<u>250,524,853</u>	<u>250,897,924</u>
Baki pada 31 Disember	<u>250,524,853</u>	<u>250,897,924</u>

Geran Pembangunan ialah peruntukan untuk kajian atau projek yang dijalankan dalam tempoh lima (5) tahun di bawah Rancangan Malaysia (RM) yang diluluskan oleh Unit Perancang Ekonomi (EPU) Jabatan Perdana Menteri, MOSTI dan Kementerian Kewangan.

Geran tertunda pembangunan dianalisis seperti berikut:

	2024 RM	2023 RM
Liabiliti Bukan Semasa	<u>250,524,853</u>	<u>250,897,924</u>
	<u>250,524,853</u>	<u>250,897,924</u>

Pecahan peruntukan geran tertunda adalah seperti berikut:

	2024 RM	2023 RM
<i>Digitalisation and Internet of Things (IoT) Programme for Biodiversity</i>	19,745	125,700
<i>National Planetary Health Action Plan (NPHAP)</i>	494,540	497,663
<i>Wireless Bridging System</i>	10,568	274,561
<i>Malaysia Science Endowment (MSE)</i>	<u>250,000,000</u>	<u>250,000,000</u>
	<u>250,524,853</u>	<u>250,897,924</u>

16 URUS NIAGA BUKAN PERTUKARAN

	2024 RM	2023 RM
Geran Mengurus	15,000,000	13,938,200
Pelunasan Hasil Geran Tertunda	1,202,813	714,593
Pelunasan Hasil Geran Tertunda	-	48,678
- Pejabat Antarabangsa	-	48,678
Pelunasan Hasil Geran Tertunda Pembangunan	3,238,071	3,200,099

Lain-lain Hasil:

	2024 RM	2023 RM
Hasil Sumbangan	400,000	200,000
Caj Sewaan Pejabat	-	80,000
Bayaran Balik Program	-	15,547
Pembalikan Belanja	2,828	124
Bayaran Balik Insolvensi	1,788	3,584
	<u>19,845,500</u>	<u>18,200,825</u>

17 URUS NIAGA PERTUKARAN

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
Caj Pengurusan Program	843,327	292,974
Faedah Akaun Semasa	5,319	13,852
Faedah Simpanan Tetap	489,283	533,082
Lain-lain Hasil – ASM	247,298	602,292
Lain-lain Hasil – ISTIC	-	1,400
	<u>1,585,227</u>	<u>1,443,600</u>

18 GAJI DAN UPAHAN

	2024 RM	2023 RM
Kakitangan Tetap:		
Gaji dan Upahan	597,451	564,316
Elaun-elaun Tetap	141,067	151,377
Sumbangan Berkanun untuk Kakitangan	40,952	39,760
Elaun Lebih Masa Kakitangan	16,911	8,191
Faedah Kewangan yang Lain	20,812	15,870
	<u>817,193</u>	<u>779,514</u>

Kakitangan tetap ASM adalah merupakan kakitangan perkhidmatan awam yang dilantik dan mengisi waran perjawatan JPA. Pembayaran gaji, upah dan bayaran kenaan tetap adalah mengikut Pekeliling Perkhidmatan Bil 1/2016. ASM telah mengguna pakai Pekeliling Perkhidmatan Bil 1/2024 Sistem Saraan Perkhidmatan Awam (SSPA) berkuat kuasa 1 Disember 2024.

19 PERKHIDMATAN DAN BEKALAN

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
Perbelanjaan Pengurusan Pentadbiran	2,688,205	2,145,606
Emolumen Kakitangan Kontrak	7,154,757	6,569,822
Komunikasi Sains	357,393	268,474
Hal Ehwal Keahlian	462,000	885,450
Kreatif, Pengeluaran dan Reka Bentuk	10,701	-
Akhbar ASM	101,693	21,355
Biro Hal Ehwal Antarabangsa	563,636	318,825
Flagship dan NICHE Studies	208,886	170,842
STI Initiative and Partnership	520,313	785,708
Malaysia Science Endowment	11,856	9,818
	<u>12,079,440</u>	<u>11,175,900</u>

Perkhidmatan dan Bekalan adalah perbelanjaan operasi ASM yang berlaku dalam melaksanakan 14 fungsi ASM seperti yang termaktub dalam Akta Akademi Sains Malaysia 1994. Aktiviti-aktiviti tersebut adalah berdasarkan strategi dan hala tuju semasa yang ditetapkan oleh Majlis ASM. Perbelanjaan pentadbiran utama merangkumi pengurusan fasiliti, teknologi maklumat, kewangan dan akaun, pengurusan data dan analisis serta perbelanjaan bagi jawatankuasa dan badan bertindak ASM.

19 PERKHIDMATAN DAN BEKALAN (SAMB)

Selain itu, gaji dan upahan bagi kakitangan kontrak ASM adalah dilantik mengikut Pekeliling Perkhidmatan Bil 2/2008. Pembayaran gaji, upah dan bayaran kenaan tetap adalah mengikut Pekeliling Perkhidmatan Bil 1/2016.

ASM telah mengguna pakai Pekeliling Perkhidmatan Bil 1/2024 Sistem Saraan Perkhidmatan Awam (SSPA) berkuat kuasa 1 Disember 2024.

20 PERBELANJAAN PROGRAM SAINS

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
Aktiviti Jaringan Kerjasama dan Kolaborasi		
<i>STI Initiative and Partnership (NHSTI)</i>	31,550	109,147
	<u>31,550</u>	<u>109,147</u>
Perbelanjaan Geran Tertunda		
<i>Malaysia Open Science Platform (MOSP)</i>	-	535,278
<i>Study on Environmental Quality Act</i>	-	82,800
<i>Water Sector Transformation 2040 (WST 2040)</i>	762,014	-
<i>Suruhanjaya Kebangsaan UNESCO Malaysia (SKUM)</i>	-	17,515
<i>National Education Reform</i>	419,320	-
<i>Malaysia Blue Economy Blueprint</i>	21,479	-
	<u>1,202,813</u>	<u>635,593</u>
Perbelanjaan Geran Tertunda Pembangunan		
<i>Digitalisation and Internet of Things (IoT) Programme for Biodiversity</i>	2,020,955	2,619,118
<i>National Planetary Health Action Plan (NPHAP)</i>	953,123	452,337
<i>Wireless Bridging System</i>	263,993	25,439
	<u>3,238,071</u>	<u>3,096,894</u>
Perbelanjaan Terimaan Terdahulu		
<i>Cosmic Connections Langkawi</i>	-	54,920
<i>Non-Radioactive Rare Earths Industry (NRREE)</i>	52,348	184,803
<i>Position Paper on New Horizon For STI (NHSTI)</i>	30,718	92,153
	<u>83,066</u>	<u>331,876</u>
Sumbangan Dana		
<i>ArtScience Initiative</i>	-	196,700
<i>International Conference on Tropical Science</i>	400,000	-
	<u>400,000</u>	<u>196,700</u>
JUMLAH PERBELANJAAN PROGRAM SAINS	4,955,500	4,370,210

Aktiviti-aktiviti yang dilaksanakan oleh ASM adalah tersenarai sebagai Program Sains. Ini merangkumi aktiviti teras ASM dan juga aktiviti yang dilaksanakan oleh ASM bagi pihak Kerajaan dan atau organisasi lain di peringkat kebangsaan dan antarabangsa melalui geran/peruntukan yang diterima. Manakala, Perbelanjaan Geran Tertunda merupakan aktiviti yang dilaksanakan dengan memenuhi terma dan syarat sesuatu program.

21 PEMBERIAN DAN KENAAN BAYARAN TETAP

	2024 RM	2023 RM <i>Dinyatakan Semula</i>
Kelab Sukan dan Kebajikan Kakitangan (KSKK)	25,000	25,000
Pencen	69,897	65,263
Sumbangan/Langganan Antarabangsa	41,694	50,437
	<u>136,591</u>	<u>140,700</u>

22 MANFAAT KAKITANGAN

	2024 RM	2023 RM
Gantian Cuti Rehat Kakitangan Tetap	71,110	26,734
Gantian Cuti Rehat Kakitangan Kontrak	32,771	36,282
Ganjaran Kakitangan Kontrak	319,642	286,627
	<u>423,523</u>	<u>349,643</u>

23 PERBELANJAAN - PERBELANJAAN LAIN

	2024 RM	2023 RM
Yuran, Insurans, Cukai, dan Duti Setem	44,373	33,545
Rugi Pelupusan Hartanah, Loji dan Peralatan	109,982	587,091
Rugi Pertukaran Mata Wang	2,270	1,576
Zakat	-	32,980
	<u>156,625</u>	<u>655,192</u>

24 SEWAAN

	2024 RM	2023 RM <i>Dinyatakan semula</i>
Sewaan Bangunan	1,498,720	1,473,662
Sewaan Ruang Simpanan	22,498	18,240
Sewaan Alat Kelengkapan Pejabat	63,705	62,340
Sewaan Alat Kelengkapan Elektrik	20,183	21,845
Sewaan Lain-Lain	108,706	32,531
Sewaan Tempat Letak Kenderaan	81,250	43,163
	<u>1,795,062</u>	<u>1,651,781</u>

25 CUKAI

	2024 RM	2023 RM
Liabiliti Cukai:		
Liabiliti/ (Lebihan) Cukai pada 01 Januari	43,095	(19,812)
Cukai	103,816	175,624
Cukai telah Dibayar	(186,985)	(112,717)
Pulangan cukai pada tahun semasa	20,012	-
(Terlebih Bayar) / Liabiliti Cukai pada 31 Disember	<u>(20,062)</u>	<u>43,095</u>
Percukaian:		
Cukai Tahun Semasa	108,997	175,624
Terlebih Peruntukan Tahun Lalu	(5,181)	-
Cukai	<u>103,816</u>	<u>175,624</u>

ASM layak menikmati layanan pengecualian cukai pendapatan melalui Perintah Cukai Pendapatan (Pengecualian) (No.22) Tahun 2006.

26 SUMBER MANUSIA

Pengurusan ASM terdiri daripada kakitangan tetap dan kontrak. Jumlah kakitangan ASM pada 31 Disember 2024 adalah seramai 100 orang (2023: 96) seperti berikut:

	2024 RM	2023 RM
Kakitangan Tetap:		
Kumpulan Pengurusan Tertinggi	1	1
Kumpulan Pengurusan dan Profesional	2	2
Kumpulan Pelaksana	6	6
Kakitangan Kontrak Perkhidmatan:		
Kumpulan Pengurusan dan Profesional	68	62
Kumpulan Pelaksana	23	25
Jumlah Keseluruhan Kakitangan:		
Kumpulan Pengurusan Tertinggi	1	1
Kumpulan Pengurusan dan Profesional	70	64
Kumpulan Pelaksana	29	31
	<u>100</u>	<u>96</u>

27 PIHAK PENGURUSAN TERTINGGI

Kepimpinan ASM diterajui oleh Majlis ASM yang dipengerusikan oleh Presiden. Majlis ASM menentukan hala tuju ASM dan menetapkan dasar ASM. Semua keputusan Majlis ASM dilaksanakan oleh Pengurusan ASM yang diketuai oleh Ketua Pegawai Eksekutif (KPE).

	2024 RM	2023 RM
Ahli Majlis:		
Jumlah Elaun Ahli Majlis	28,000	35,750
Ahli Jawatankuasa Kewangan:		
Jumlah Elaun	34,000	33,500
Ahli Jawatankuasa Eksekutif (EXCO):		
Jumlah Elaun	10,250	10,250
Ahli Jawatankuasa Penasihat Dasar STI:		
Jumlah Elaun	75,750	84,500
Kakitangan Pengurusan Utama:		
Manfaat Jangka Pendek	267,053	260,502
	<u>415,053</u>	<u>424,502</u>

Majlis merupakan badan tertinggi ASM yang ditubuhkan di bawah Akta Akademi Sains Malaysia 1994 bagi menjalankan fungsi-fungsi ASM serta mengurus dan mengawal selia hal-ehwal Akademi. Ahli Majlis ASM adalah terdiri daripada 16 orang yang dipilih dari kalangan Felo di Mesyuarat Agung Tahunan ASM kecuali Presiden yang dilantik oleh SPB Yang Di-Pertuan Agong. Majlis ASM yang diketuai oleh Presiden terdiri daripada Naib Presiden, Setiausaha Agung, Bendahari Kehormat dan 12 orang Ahli Majlis Biasa. Majlis bersidang empat (4) hingga lima (5) kali setahun bagi memutuskan hala tuju dan pelaksanaan aktiviti ASM.

Jawatankuasa Kewangan ASM pula berperanan mengawasi perancangan, pelaksanaan dan pemantauan prosedur, sistem dan pelaporan berkaitan kewangan ASM dan dipengerusikan oleh Bendahari Kehormat dan dibantu oleh lapan (8) orang ahli.

Jawatankuasa Eksekutif (EXCO) berperanan membantu Majlis dalam mengurus dan mengawal selia aktiviti pengurusan harian serta hal-ehwal Akademi. EXCO terdiri daripada Presiden, Naib Presiden, Setiausaha Agung, dan Bendahari Kehormat. Jawatankuasa EXCO bersidang bagi pihak Majlis ASM untuk membantu memutuskan perkara-perkara yang memerlukan kelulusan, perbincangan dan pandangan pada kadar segera.

Jawatankuasa Penasihat Dasar STI (STIPAC) berfungsi memantau dan menyediakan hala tuju strategik, dan memberi input kepada semua kajian-kajian di ASM serta dasar dan strategi negara yang berkaitan dengan STI berdasarkan asas bukti yang kukuh serta membuat keputusan termaklum. Jawatankuasa ini memainkan peranan penting dalam memastikan ASM sentiasa memberikan nasihat saintifik dan advokasi terbaik, bebas, boleh dipercayai, relevan dan tepat pada masanya demi kepentingan negara dan masyarakat. STIPAC dipengerusikan oleh Presiden ASM dan dibantu oleh 22 ahli.

Kakitangan Pengurusan Utama merupakan Ketua Pegawai Eksekutif (KPE) ASM yang berperanan sebagai Pegawai Pengawal ASM dan mempunyai kuasa dan tanggungjawab untuk merancang, mengarah, melaksana dan mengawal aktiviti-aktiviti ASM. KPE juga bertanggungjawab melaporkan prestasi dan status semua aktiviti kepada Majlis ASM.

28 PENGURUSAN RISIKO KEWANGAN

i. Objektif dan Polisi Risiko Pengurusan Kewangan

Dasar pengurusan risiko kewangan ASM bertujuan untuk memastikan bahawa terdapatnya sumber kewangan yang mencukupi untuk pembangunan perniagaan, menguruskan risiko kredit, tukaran asing dan kecairan. ASM beroperasi di bawah garis panduan yang telah ditetapkan dengan jelas yang diluluskan oleh ASM dan dasar ASM adalah untuk tidak terlibat dalam urusi niaga spekulatif.

ii. Risiko Kredit

Risiko kredit atau risiko pihak ketiga gagal membayar, dikawal dengan penerapan tatacara kelulusan kredit, had dan pengawasan yang ketat. Risiko kredit diminimumkan dan diawasi secara ketat dengan menghadkan kerjasama ASM dengan rakan perniagaan yang mempunyai kepercayaan kredit yang tinggi. Penghutang diawasi secara berterusan melalui tatacara pelaporan pengurusan ASM.

Bagi wang tunai dan baki di bank, simpanan tetap dan deposit jangka pendek, ASM mengurangkan risiko kredit dengan berurusan secara eksklusif dengan institusi kewangan yang mempunyai penarafan kredit yang tinggi.

iii. Risiko Kadar Faedah

Risiko kadar faedah adalah risiko bahawa nilai wajar atau aliran tunai masa hadapan bagi instrumen kewangan ASM akan berubah-ubah kerana perubahan dalam pasaran kadar faedah.

iv. Risiko Kecairan

Risiko kecairan dan aliran tunai adalah risiko bahawa ASM akan menghadapi kesukaran dalam memenuhi kewajipan kewangan oleh kerana kekurangan dana. Pendedahan ASM kepada risiko kecairan wujud daripada perbezaan dalam kematangan aset kewangan dan liabiliti kewangan. Jadual di bawah menunjukkan profil kematangan liabiliti ASM pada tarikh laporan berdasarkan obligasi pembayaran semula tanpa diskaun kontrak.

ASM mengurus risiko kecairan dan aliran tunai dengan memastikan tunai yang mencukupi dan menyediakan dana yang cukup bagi memenuhi komitmen daripada perbelanjaan operasi dan liabiliti kewangan.

	Kurang Tempoh Setahun RM	Lebih Tempoh Setahun RM	Jumlah RM
Pada 31 Disember 2024			
Akaun Belum Bayar	<u>761,137</u>	<u>-</u>	<u>761,137</u>
Pada 31 Disember 2023			
Akaun Belum Bayar	<u>1,169,752</u>	<u>-</u>	<u>1,169,752</u>

v. Nilai Saksama

Nilai dibawa tunai dan kesetaraan tunai, belum terima dan belum bayar adalah menyamai nilai saksamanya kerana tempoh matangnya yang pendek.

29 NOTA BAGI PENYATA PERBANDINGAN BAJET DAN SEBENAR

Bajet ASM telah diluluskan dan dibentangkan atas asas tunai bagi tempoh kewangan 1 Januari 2024 sehingga 31 Disember 2024. Bajet asal telah diluluskan MOSTI dan dimaklumkan melalui emel bertarikh 26 Februari 2024.

30 PELARASAN TAHUN LALU

Pada tahun 2023, ASM telah berkurang nyata lain-lain hasil ASM sebanyak RM 109,147 dan telah terlebih nyata faedah simpanan tetap nyata faedah simpanan tetap sebanyak RM 113,150, hasil yang diperolehi dari simpanan tetap Malaysia Science Endowment (MSE). Faedah ini diperolehi daripada keuntungan simpanan tetap yang diperolehi daripada dana yang diterima oleh ASM. Keuntungan daripada pelaburan perlu direkodkan secara berasingan di dalam urus niaga pertukaran belum bayar.

Justeru, kesan dalam penyata kewangan adalah seperti berikut:

	Dinyatakan Terdahulu RM	Pelarasan RM	Dinyatakan Semula RM
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Penyata Kedudukan Kewangan pada 31 Disember 2023

Liabiliti Semasa			
Urus niaga pertukaran belum bayar	<u>1,202,119</u>	<u>113,150</u>	<u>1,315,269</u>

Aset bersih			
Lebihan Berkumpul	<u>13,426,543</u>	<u>(4,003)</u>	<u>13,422,540</u>

Penyata Prestasi Kewangan Bagi tahun kewangan berakhir 31 Disember 2023

Urus niaga pertukaran			
Faedah simpanan tetap	646,232	(113,150)	533,082
Lain-lain Hasil – ASM	493,145	109,147	602,292
Jumlah Hasil	19,648,428	(4,003)	19,644,425
Kurangan sebelum cukai	(344,120)	(4,003)	(348,123)
Kurangan selepas cukai	<u>(519,744)</u>	<u>(4,003)</u>	<u>(523,747)</u>

Penyata Aliran Tunai Bagi tahun berakhir 31 Disember 2023

Kurangan sebelum cukai	(344,120)	(4,003)	(348,123)
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Pelarasan:			
Pendapatan faedah	(660,084)	113,150	(546,934)

Perubahan dalam modal kerja:

Penigkatan daripada urus niaga Pertukaran belum terima	52,351	(109,147)	56,796
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Penurunan daripada urus niaga Pertukaran belum bayar	(193,343)	113,150	(80,193)
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30 PELARASAN TAHUN LALU (SAMB)

Tunai bersih dijana untuk aktiviti Operasi	<u>16,458</u>	<u>113,150</u>	<u>129,608</u>
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Aliran Tunai daripada Aktiviti Pelaburan			
Faedah Diterima	445,636	(113,150)	332,486

Tunai bersih digunakan daripada Aktiviti Pelaburan	(381,484)	(113,150)	(494,634)
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Penyata Perubahan Dalam Aset Bersih Bagi tahun berakhir 31 Disember 2023

Lebihan terkumpul	<u>13,426,543</u>	<u>(4,003)</u>	<u>13,422,540</u>
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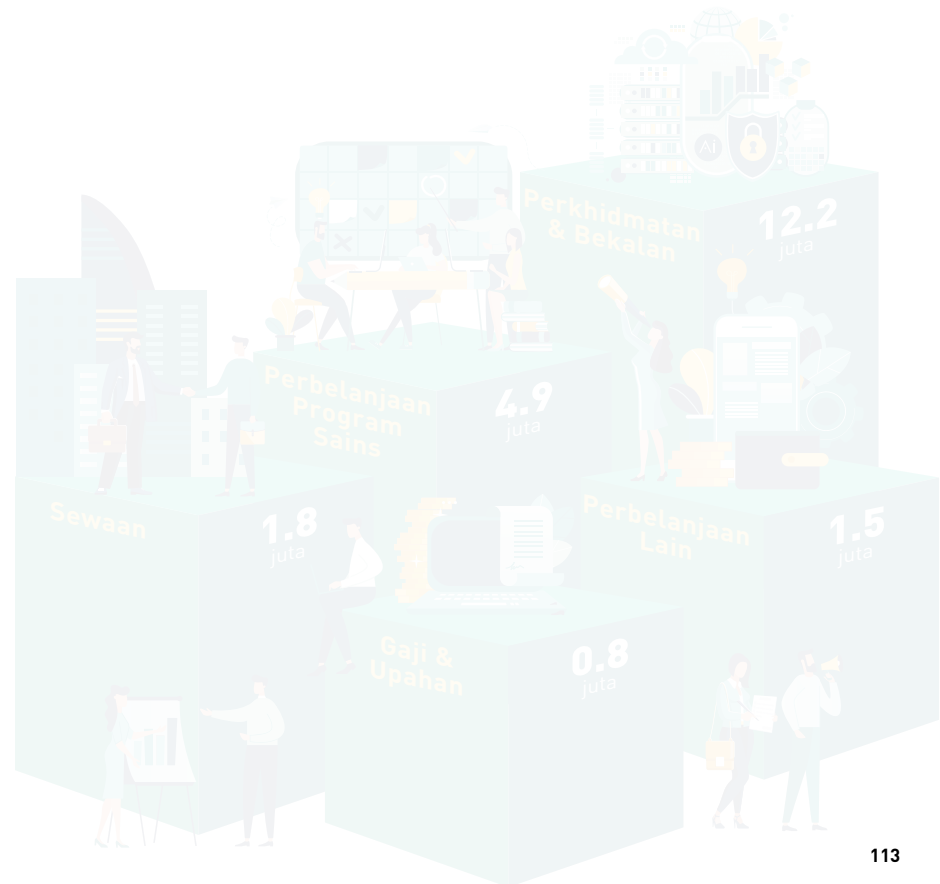
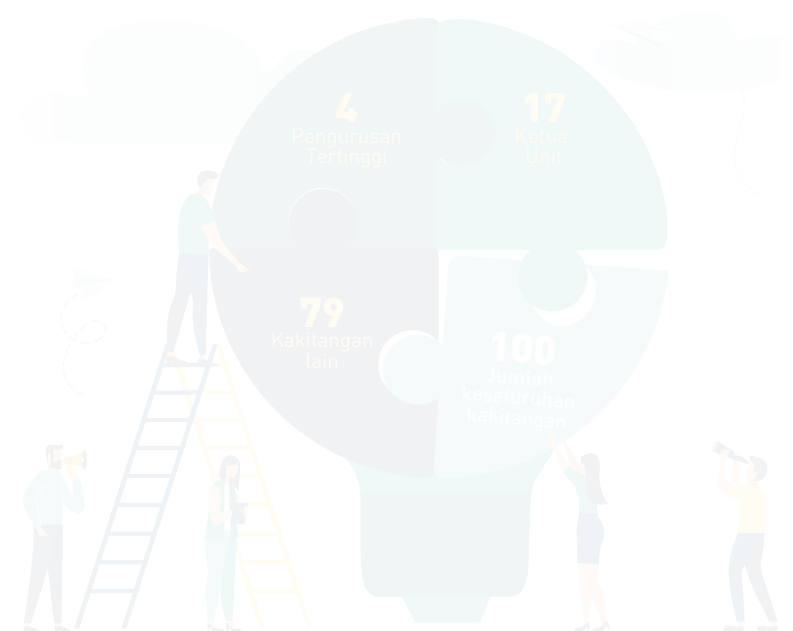
31 PENGKELASAN SEMULA ANGKA PERBANDINGAN

Sebahagian daripada angka-angka bandingan tahun lalu telah dipinda kerana pengkelasan semula transaksi perbelanjaan program sains seperti berikut:

	Dinyatakan Terdahulu RM	Pengkelasan RM	Dinyatakan Semula RM
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Penyata Prestasi Kewangan Bagi tahun kewangan berakhir 31 Disember 2023

Perbelanjaan			
Perkhidmatan dan bekalan	9,640,017	1,535,883	11,175,900
Perbelanjaan program sains	5,957,963	(1,587,753)	4,370,210
Sumbangan dan kenaikan bayaran tetap	121,361	19,339	140,700
Sewaan	<u>1,619,250</u>	<u>32,531</u>	<u>1,651,781</u>



MAKLUMAT LANJUT



JAWATANKUASA PENGURUSAN 2024

Ahli Majlis

Pengerusi: Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Jawatan Eksekutif (EXCO)

Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Jawatankuasa Penasihat Dasar Sains, Teknologi dan Inovasi (STIPAC)

Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Jawatankuasa Kewangan

Bendahari Kehormat, Academician Profesor Emeritus Datin Paduka Setia Dato' Dr Aini Ideris FASc

Jawatankuasa Kecil Pelaburan ASM

Pengerusi: Dato' Dr Jalaluddin Harun FASc

Jawatankuasa Audit

Pengerusi: Datuk Dr Abdul Razak Mohd Ali FASc

Jawatankuasa Keahlian

Pengerusi: Naib Presiden, Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

Kumpulan Respons Media dan Fokus Domain Awam

Pengerusi: Setiausaha Agung, Profesor ChM Dr Noorsaadah Abd Rahman FASc

Jawatankuasa Penasihat Presiden

Pengerusi: Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Jawatankuasa Hal Ehwal Antarabangsa

Pengerusi: Naib Presiden, Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

Jawatankuasa Felo Kanan

Pengerusi: Academician Emeritus Profesor Dato' Dr V.G. Kumar Das FASc

Jawatankuasa Penerbitan

Pengerusi: Setiausaha Agung, Profesor ChM Dr Noorsaadah Abd Rahman FASc

• Sidang Redaksi ASM Science Journal

Pengerusi: Profesor Dato' Dr Mohd Ali Hassan FASc

• Sidang Redaksi e-estidotmy

Pengerusi: Profesor Ir Dr Rosdiadee Nordin

Jawatankuasa Disiplin Pihak Pengurusan Atasan

Pengerusi: Setiausaha Agung, Profesor ChM Dr Noorsaadah Abd Rahman FASc

Jawatankuasa Rayuan Disiplin Pihak Pengurusan Atasan

Pengerusi: Naib Presiden, Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

Jawatankuasa Wakalah Zakat

Pengerusi: Bendahari Kehormat, Academician Emeritus Profesor Datin Paduka Setia Dato' Dr Aini Ideris FASc

Jawatankuasa Perancangan Strategik ASM

Pengerusi: Setiausaha Agung, Profesor ChM Dr Noorsaadah Abd Rahman FASc

JAWATANKUASA & BADAN BERTINDAK

Jawatankuasa Air

Pengerusi: Profesor Dr Zulkifli Yusop FASc
Penasihat: Tan Sri Dato' Ir Syed Muhammad Shahabudin FASc

Jawatankuasa Tenaga

Pengerusi: Profesor Dato' Dr Kamaruzzaman Sopian FASc
Penasihat: Profesor Dato' Ir Dr A. Bakar Jaafar FASc

Jawatankuasa Kesihatan

Pengerusi: Profesor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc
Penasihat: Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

Jawatankuasa Pertanian

Pengerusi: Profesor Dato' Dr Zulkifli Idrus FASc
Penasihat Bersama:
Academician Dato' Seri Dr Abdul Aziz S.A. Kadir FASc
Academician Emeritus Profesor Datin Paduka Setia Dato' Dr Aini Ideris FASc

• Badan Bertindak Baja

Pengerusi: Profesor Dr Shamsuddin Jusop PGeol FASc

• Badan Bertindak Kesihatan dan Pengeluaran Ternakan

Pengerusi: Dato' Dr Quaza Nizamuddin Bin Hassan Nizam

• Badan Bertindak Keselamatan dan Kualiti Makanan

Pengerusi: Dr Zamri Ishak

• Badan Bertindak Benih dan Bahan Penanaman

Pengerusi: Dr Chua Kim Aik

• Badan Bertindak Kebersihan Pertanian

Pengerusi: Profesor Dr Mohamad Hamiruce Marhaban

Jawatankuasa Biodiversiti
Pengerusi: Dr Helen Nair FASc

Penasihat Bersama:
Academician Emeritus Profesor Tan Sri Dr Zakri Abdul Hamid FASc
Academician Tan Sri Dr Salleh Mohd Nor FASc

Jawatankuasa Ekonomi Biru
Pengerusi Bersama:

Emeritus Profesor Dr Phang Siew Moi FASc
Ir Dr Suzana Yusup FASc
Penasihat: Profesor Dato' Ir Dr A. Bakar Jaafar FASc

Jawatankuasa Pembangunan Bakat
Pengerusi Bersama:

Dr Mohamad Kamal Hj Harun FASc
Dr Nor Hadiani Ismail FASc
Penasihat: Academician Profesor Datin Paduka Dr Khatijah Mohd Yusoff FASc

Jawatankuasa Pendigitalan

Pengerusi Bersama:
Dr Mohamed Awang Lah FASc
Emeritus Profesor Dr Tharek Abd Rahman FASc
Penasihat: Emeritus Profesor Dato' Seri Ir Dr Mashkuri Yaacob FASc

Jawatankuasa Alam Sekitar

Pengerusi: Profesor Emeritus Dato' ChM Dr Mazlin Mokhtar FASc
Penasihat: Academician Emeritus Profesor Tan Sri Dr Zakri Abdul Hamid FASc

- **Jawatankuasa Alam Sekitar: Pengerusi Jawatankuasa Kecil Setiap Wilayah**
Pengerusi Wilayah Tengah: Profesor Dr Mohd Talib Latif FASc

Pengerusi Wilayah Utara: Profesor Dr Sumathi Sethupati

Pengerusi Wilayah Selatan: Profesor Dr Zahriladha Zakaria

Pengerusi Wilayah Pantai Timur: Profesor Ts Dr Lam Su Shiung

Pengerusi Wilayah Sabah: Profesor Ir Dr Rosalam Sarbatly

Pengerusi Wilayah Sarawak: Datu Dr Lulie Anak Joshua Melling FASc

Jawatankuasa Perubahan Iklim dan Pengurangan Risiko Bancana (CCDRR)

Pengerusi: Dato' Dr Yap Kok Seng FASc
Penasihat: Academician Emerita Profesor Tan Sri Dato' Seri Dr Mazlan Othman FASc

Badan Bertindak Semakan Akta ASM

Pengerusi: Setiausaha Agung, Profesor ChM Dr Noorsaadah Abd Rahman FASc

Jawatankuasa Pemandu Anugerah Sains

Pengerusi: Setiausaha Agung, Profesor ChM Dr Noorsaadah Abd Rahman FASc

Jawatankuasa Pemandu ArtScience™ ASM

Pengerusi: Academician Emerita Profesor Tan Sri Dato' Seri Dr Mazlan Othman FASc

- **Jawatankuasa Kecil ArtScience™ ASM**
Pengerusi: Dr Roslina Ismail

Jawatankuasa Pemandu National Science Challenge (NSC)

Pengerusi: Profesor Ir Dr Aduwati Sali FASc

Jawatankuasa Pemandu Top Research Scientists Malaysia (TRSM)

Pengerusi: Naib Presiden, Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

- **Panel Pemilihan Top Research Scientists Malaysia (TRSM)**

Pengerusi: Profesor Dr Rofina Yasmin Othman FASc

Jawatankuasa Penyelarasan Pembangunan Pelan Tindakan

Kesihatan Planet Negara (NPHAP)

Pengerusi: Academician Profesor Emerita Datuk Dr Asma Ismail FASc

Jawatankuasa Malaysia Science Endowment (MSE)

Dipengerusikan sementara oleh Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc dan CEO, Puan Hazami Habib

Kumpulan Kerja ASEAN STI Ecosystem Foresight 2035

Pengerusi: Profesor Dr Mahendhiran Sanggaran Nair FASc

Jawatankuasa Bangunan ASM

Pengerusi: Ir Ts Choo Kok Beng FASc

Jawatankuasa 10-10 MySTIE

Pengerusi: Profesor Dr Mahendhiran Sanggaran Nair FASc

Naib Pengerusi: Dr Zainal Ariffin Ahmad FASc

Science Outlook 2025 (SO2025)

Pengerusi: Emeritus Profesor Dr Nik Meriam Nik Sulaiman FASc

SPECIAL INTEREST GROUP (SIG)

SIG Inovasi Sosial

Pengerusi: Profesor Dato' Dr Aileen Tan Shau Hwai FASc

SIG Pembangunan Tenaga Haba Lautan untuk Kelestarian

Pengerusi: Profesor Dato' Ir Dr A. Bakar Jaafar FASc

SIG Teknologi Kuantum

Pengerusi: Emeritus Profesor Dato' Dr Mohamed Ridza Wahiddin FASc

SIG Pengekasan Ekonomi Penuh (SIGFEC)

Pengerusi: Profesor Ir Dr Shaliza Ibrahim CEng FICHEM FASc

PROGRAM KERJASAMA

Jawatankuasa Program Dana Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh

Pengerusi: Profesor Dr Sheila Nathan FASc
Pengerusi Ganti: Profesor Dato' Dr Mohd Azmi Mohd Lila FASc

PROJEK KHAS

Jawatankuasa Pemandu Inisiatif Malaysian Collaborative Network (i-Connect)

Pengerusi Bersama:

Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc
 Ir Ts Choo Kok Beng FASc

Ahli Gabungan Platform Sains Terbuka Malaysia (MOSA)

Pengerusi Bersama:

Profesor ChM Dr Noorsaadah Abdul Rahman FASc
 Profesor Ir Dr Shaliza Ibrahim CEng FICHEM FASc

• Jawatankuasa Teknikal Ahli Gabungan Platform Sains Terbuka Malaysia (MOSA)

Pengerusi: Profesor Madya Dr Liew Chee Sun

Badan Bertindak Program Pendigitalan dan IoT untuk Biodiversiti

Pengerusi Bersama:

Emeritus Profesor Dr Wickneswari Ratnam FASc
 Dr Wan Mohd Shukri Wan Ahmad

Badan Bertindak Gamat Emas

Pengerusi: Profesor Dato' Dr Aileen Tan Shau Hwai FASc

Reformasi Pendidikan Negara

Pengerusi Bersama:

Academician Profesor Emerita Datuk Dr Asma Ismail FASc
 Profesor ChM Dr Noorsaadah Abd Rahman FASc
 Mr Chan Soon Seng

Pelan Tindakan Ekonomi Biru Malaysia

Pengerusi Bersama:

Pengerusi: Emeritus Profesor Dr Phang Siew Moi FASc

Pengerusi Bersama: Profesor Dr Mahendhiran Sanggaran Nair FASc

International Science, Technology & Innovation for South-South Cooperation (ISTIC)

Pengerusi: Profesor ChM Dr Mohd Basyaruddin Abdul Rahman FASc

CHAPTERS

Chapter Utara ASM

Pengerusi: Profesor Dr Habibah A Wahab FASc

Chapter Selatan ASM

Pengerusi: Profesor Ir Dr Haslenda Hashim FASc

Chapter Pantai Timur ASM

Pengerusi: Profesor Dato' Dr Jafri Malin Abdullah FASc

Chapter Sabah ASM

Pengerusi: Dr Rahimatsah Amat FASc

• Kumpulan Kerja Chapter Sabah ASM

Pengerusi Bersama:

Dr Rahimatsah Amat FASc
 Profesor Madya Dr Mailin Misson

Chapter Sarawak ASM

Pengerusi: Datu Dr Lulie Anak Joshua Melling FASc

KUMPULAN DISIPLIN

Sains Biologi, Pertanian dan Alam Sekitar

Pengerusi: Dr Ravigadevi Sambanthamurthi FASc

Pengerusi Bersama: Profesor Dato' Dr Mohamed Shariff Mohamed Din FASc

Sains Kimia

Pengerusi: Emeritus Profesor Dato' Dr Mohd Jamil Maah FASc

Pengerusi Ganti: ChM Dr Yang Farina Abdul Aziz FASc

Sains Kejuruteraan

Pengerusi: Dr Zahari Taha FASc

Pengerusi Ganti: Datuk Ir (Dr) Abdul Rahim Hj Hashim FASc

Teknologi Maklumat dan Sains Komputer

Pengerusi: Emeritus Profesor Dr Mohamed Ridza Wahiddin FASc

Pengerusi Ganti: Dato' Ts Dr Amirudin Abdul Wahab FASc

Matematik, Fizik dan Sains Bumi

Pengerusi: Profesor Dr Wan Ahmad Tajuddin Wan Abdullah FASc

Pengerusi Ganti: Profesor Dr Maslina Darus FASc

Sains Perubatan dan Kesihatan

Pengerusi: Profesor Datin Paduka Dr Teo Soo Hwang FASc

Pengerusi Ganti: Dr Subramaniam Krishnan FASc

Pembangunan Sains & Teknologi dan Industri

Pengerusi: Dato' Dr Jalaluddin Harun FASc

Pengerusi Ganti: Datuk Dr Ahmad Tasir Lope Pihie FASc

Sains Sosial dan Kemanusiaan

Pengerusi: Profesor Emeritus Datuk Dr Norma Mansor FASc

Pengerusi Ganti: Emeritus Profesor Datuk Dr Osman Bakar FASc

YOUNG SCIENTISTS NETWORK (YSN-ASM)

Pengerusi: Profesor Ts Dr Nurfaadhina Mohd Sharef

Naib Pengerusi: Profesor Ir Denny Ng Kok Sum
Setiausaha Agung: Profesor Madya Dr Nurbiha A Shukor

Bendahari Kehormat: Dr Phan Chia Wei

• Kumpulan Kerja Dasar Sains dan Pentadbiran

Pengerusi: Profesor Madya Ts Dr Mohd Faizal Ibrahim

Pengerusi Bersama: Dr Muhammad Abd Hadi Bunyamin

• Kumpulan Kerja Program Jangkauan Sains

Pengerusi : Dr Lee Sau Har

Pengerusi Bersama: Profesor Madya Dr Mailin Misson

• Kumpulan Kerja Sains & Media

Pengerusi: Profesor Madya Dr Fatimah Abdul Razak

Pengerusi Bersama: Dr Jezamine Lim

• Kumpulan Kerja Komunikasi Sains

Pengerusi: Profesor Madya Ts Dr Dayana Farzeeha Ali

Pengerusi Bersama: ChM Dr Shahrul Nizam Ahmad

• Kumpulan Kerja Sinergi Penyelidikan

Pengerusi: Profesor Madya ChM Dr Fatimah Salim

Pengerusi Bersama: Dr Sabrinah Adam

• Kumpulan Kerja Pendidikan Sains

Pengerusi: Profesor Madya Dr Suhaila Sepeai

Pengerusi Bersama: Dr Amirah Abdul Rahman

• Kumpulan Kerja Integriti Sains

Pengerusi: Profesor Madya Ts Dr Mohd Hafiz Arzmi

Pengerusi Bersama: Profesor Madya Ts Dr Eugenie Tan Sin Sing

• Kumpulan Kerja Kepimpinan Sains

Pengerusi: Dr Ng Siew Kit

Pengerusi Bersama: Dr Thaigarajan Parumasivam

Jawatankuasa Pemilihan Keahlian YSN-ASM

Pengerusi: Naib Presiden, Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc

WAKIL ASM DALAM MESYUARAT ANTARABANGSA DAN KEBANGSAAN

Association of Academies and Societies in Asia (AASSA)

Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Negara Berpendapatan Rendah dan Sederhana, Lembaga InterAcademy Partnership (IAP)

Academician Profesor Emerita Datuk Dr Asma Ismail FASc (Pengerusi Bersama)

• Jawatankuasa Pembangunan Nasihat Dasar, IAP

Academician Profesor Emerita Datuk Dr Asma Ismail FASc (Pengerusi Bersama)
Profesor Dato' Ir Dr A. Bakar Jaafar FASc (Ahli)

• Jawatankuasa Pembangunan Pembinaan Kapasiti Akademi dan Program, IAP

Academician Profesor Datin Paduka Dr Khatijah Mohd Yusoff FASc (Ahli)

• Kesejahteraan Bandar InterAcademy Partnership, IAP

Datuk Profesor Dr Awg Bulgiba Awg Mahmud FASc (Ahli)

Kumpulan Kerja Semakan ISC Dues (2024), International Science Council (ISC)

Academician Distinguished Profesor Ulung Datuk Dr Looi Lai Meng FASc (Ahli)

Jawatankuasa Tetap Perancangan Sains 2022-2025, ISC

Academician Profesor Emerita Datuk Dr Asma Ismail FASc (Ahli)

Network of Academies of Sciences in the Islamic Countries (NASIC)

Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Lembaga Pengurusan Science Council of Asia (SCA)

Academician Profesor Ulung Datuk Dr Looi Lai Meng FASc (Ahli)

Academy of Sciences in Developing World (TWAS)

Presiden, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

ASEAN Network of Young Scientists (ASEAN YSN)

Profesor Dr Chai Lay Ching (Ahli)

Lembaga Penasihat (Malaysia), Jawatankuasa ASEAN Foresight Alliance

Academician Profesor Emerita Tan Sri Dato' Seri Dr Mazlan Othman FASc (Ahli)

Lembaga Tadbir Urus ISTIC

Pengerusi, Profesor Dr Mohd Basyaruddin Abdul Rahman FASc (Ahli)

• Jawatankuasa Eksekutif ISTIC

Profesor Dato' Ir Dr A. Bakar Jaafar FASc (Ahli)

Mesyuarat Kerja APEC Policy Partnership on STI (PPSTI)

CEO, Pn Hazami Habib (Timbalan Pengerusi)

World Organization for Science Literacy (WOSL)

CEO, Pn Hazami Habib (Ahli Jawatankuasa Persediaan)

Jawatankuasa Penasihat Sains Terbuka UNESCO

Profesor ChM Dr Noorsaadah Abd Rahman FASc (Wakil Utama Malaysia)

Mesyuarat Jawatankuasa Khas Antara Kerajaan UNESCO mengenai Sains Terbuka

CEO, Pn Hazami Habib (Wakil Ganti)

Jawatankuasa Penasihat Sosioekonomi

Profesor Dato' Dr Tengku Aizan Tengku Abdul Hamid FASc (Ahli)

Kumpulan Kerja Modal Insan dan Penyelidikan untuk Indeks Inovasi Global (GII)

Profesor Dr Yvonne Lim Ai Lian FASc (Ahli)

Jawatankuasa Kebangsaan Integriti Penyelidikan

Academician Profesor Datin Paduka Dr Khatijah Mohd Yusoff FASc (Ahli)

Majlis Pembangunan Teknologi dan Inovasi Sabah (MaPTIS)

Pengerusi Chapter Sabah ASM, Dr Rahimatsah Amat FASc (Ahli)

Majlis Bioetika Negara

Profesor Dr Rofina Yasmin Othman FASc (Ahli Tetap)
Profesor Dr Chan Kok Gan FASc (Ahli Ganti)

SENARAI AKTIVITI

JANUARI

Wacana STEM: 'Mengapa STEM Diperlukan pada 2024?'

11 Januari

Kunjungan Hormat daripada Islamic Development Bank Group (IsDB)

12 Januari

Penandatanganan MoU antara ASM dan KAST

22 Januari

Simposium Bilateral ASM-KAST

29 Januari

Kunjungan Hormat daripada Delegasi Majlis Biodiversiti Pahang (MBP)

23 Januari

FEBRUARI

Kunjungan Hormat daripada Japan Science and Technology Agency (JST)

2 Februari

Mesyuarat Perikatan Biodiversiti Kebersihan (PBD)

14 Februari

Townhall bersama Presiden

19 Februari

Kunjungan Hormat daripada King Prajadhipok's Institute (KPI), Thailand

20 Februari

Perhimpunan Tahunan 2024 bersama Ketua Pegawai Eksekutif ASM

22 Februari

Kesedaran Kendiri dan Situasi Untuk Pertumbuhan Individu dan Organisasi

22 Februari

Kunjungan Hormat daripada YB Dr Haim Hilman Abdullah, EXCO Industri dan Pelaburan

23 Februari

Sesi Libat Urus Pemegang Taruh: Industri - SIG Pembangunan Tenaga Haba Lautan untuk Kelestarian

26 Februari

Mesyuarat APEC Policy Partnership on Science, Technology and Innovation (PPSTI) ke-23

28 - 29 Februari

MAC

Kunjungan Hormat daripada National Research and Innovation Agency (BRIN)

5 Mac

Jawatankuasa Air WEHAB++: Water Sector Reform Forum, Program Pemukiman PETRA

5 Mac

Sesi Libat Urus Pemegang Taruh: Kementerian & Agensi - SIG OTEDDS

7 Mac

Hari Wanita Antarabangsa

8 Mac

Bengkel Permukiman MSE

11 Mac

Sesi Libat Urus Pemegang Taruh: Pertubuhan Bukan Kerajaan & Pertubuhan Masyarakat Sipil - SIG OTEDDS

11 Mac

Sesi Libat Urus Pemegang Taruh: Kumpulan Parlimen Pelbagai Parti Malaysia - Matlamat Pembangunan Mampan - SIG OTEDDS

11 Mac

APRIL

Bengkel Beyond COVID-19: Innovating for the Next Pandemic
5 April

ISC Global Knowledge Dialogue for Latin America and the Caribbean
9-11 April
Santiago, Chile

Kunjungan daripada Hi-Tech Instruments Sdn. Bhd
16 April

Jawatankuasa Air WEHAB++: Bengkel Persediaan RMKe-13 Bahagian Ekonomi Alam Sekitar Dan Sumber Asli
22 April

Sambutan Majlis Hari Raya Aidilfitri ASM
23 April

Jawatankuasa Air WEHAB++ | ASIAWATER 2024: Forum Panel Session II (Day 2) - Sustainable Water Development: Tracking Progress in Malaysia's Water Transformation 2040
24 April

Jawatankuasa Air WEHAB++ | Persidangan "Environmental, Social & Governance (ESG) SPAN Sempena ASIAWATER 2024"
25 April

Kunjungan Hormat Presiden ASM ke Kelantan
28 – 30 April

MEI

Jawatankuasa WEHAB++ Perubahan Iklim & Pengurangan Risiko Bencana | ASM Roundtable Dialogue for Impact of Climate Change Negotiations on Malaysia
6 Mei

Lawatan Khas Presiden ASM – Penang
6 – 8 Mei

Jerayawara Chapter Utara ASM 2024 – Johor
8 Mei

39th ideaXchange: Positioning Northern Corridor as a Hub of Global Smart Technologies
8 Mei

Chit Chat with SPM Leavers: What's next?
16 Mei

UN World Summit on the Information Society (WSIS)+20 Forum High-Level Event 2024
27 – 31 Mei
Geneva, Switzerland

JUN

Jerayawara Chapter Utara ASM 2024 – Penang
12 Jun

40th ideaXchange: Creating the Ecosystems to Position Malaysia as the Business and Services Hub for the Region
12 Jun 2024

Sesi Libat Urus Pemegang Taruh Science Outlook
13 Jun

Mesyuarat Agung Tahunan ASM ke-29
22 Jun

Lawatan Kerja ke Seoul, South Korea bersama Kementerian Sains, Teknologi dan Inovasi
23-27 Jun
Seoul, Korea Selatan

Syarahan Penerima Anugerah Nobel oleh Sir Paul Nurse
24 Jun

Kunjungan daripada Korean Academy of Science & Technology (KAST)
24 Jun

73rd Lindau Nobel Laureate Meeting
30 Jun – 5 Julai
Lindau, Jerman

JULAI

Bengkel Diagnostik and Terapeutik
1- 2 Julai

Kunjungan Hormat daripada Timbalan Naib Canselor (Penyelidikan & Inovasi) Pejabat Universiti Teknologi Mara (UiTM)
2 Julai

STI 100^3
17 Julai

FASciate siri 1 2024
17 Julai

Penghantaran Pemenang NSC 2023 bagi Tahun 2024
22 Julai

National Dialogue on Planetary Health: Interconnectivity of Humans, Planet, and Prosperity
25 Julai

Kunjungan Hormat daripada Japan's Liberal Democratic Party (LDP)
29 Julai

OGOS

CERN Summer Student Programme (CSSP)
1 – 23 Ogos
Geneva, Switzerland

YSN Turun Padang: SK Kota Kinabatangan
5 Ogos 2024

YSN Turun Padang: SK Batu 16 Gum Gum, Sandakan
7 Ogos 2024

Mesyyarat Bilateral UN World Summit on the Information Society (WSIS)+20 Forum High-Level 2024
8 Ogos

JSPS Alumni Association Malaysia (JAAM) - ASM - Japan Society for the Promotion of Science (JSPS) STIE Symposium
17 Ogos

PPSTI Workshop on the Landscape Study and Benchmarking Workshop for the APEC Open Science Alliance
18 Ogos
Lima, Peru

Syarahan Peringatan Dr Ranjeet Bhagwan Singh (RBS) dan Pengumuman Penerima Geran Penyelidikan RBS 2024
19 Ogos

24th APEC Policy Partnership on Science, Technology and Innovation meeting
19 - 20 Ogos
Lima, Peru

SEPTEMBER

Kick-Off Conference RMK13
5 September

Science at Shine Dome Programme 2024
9 – 12 September
Canberra, Australia

Kunjungan Hormat daripada Chinese Academy of Engineering (CAE)
10 September

Perjumpaan penerima CERN Summer Students Programme (CSSP) 2024 bersama YBM MOSTI
11 September

ASEAN Plan of Action on Science, Technology and Innovation (APASTI) Workshop: Actions to address the challenges and opportunities of the coming decade
11-12 September
Jakarta, Indonesia

Phyton Programming Workshop
12 & 13 September

Program Latihan Antarabangsa mengenai Dasar STI: Peranan STI untuk Kecemerlangan dalam Pengkomersialan di Ekonomi Baru Muncul
12-14 September

NSC STEM Camp
17 – 21 September

Webinar: Architecture of Quantum Computer (Dr Yap Yung Szen)
23 September

Bengkel Pengaturcaraan Phyton
23 & 24 September

Peringkat Akhir National Science Challenge
24 September

Webinar: Quantum Revolution: From Demystifying Science to Disruptive Technology (Profesor Dr Raymond Ooi Chong Heng FASc)
27 September

Webinar: Quantum Cryptography and Post Quantum Cryptography (Profesor Madya Ir Dr Norshamsuri Ali @ Hasim)
30 September

OKTOBER

Webinar: Quantum Safe Infrastructure for Cyber Resilience (En Hj Thaib Mustafa)

1 Oktober

Webinar: A New Approach to Quantum Concepts in Education: Revolutionising Learning Through Quantum Computing (Dr Siti Munirah)

3 Oktober

STS Forum Young Leaders Programme

5 – 8 Oktober

Kyoto, Japan

Joint Meeting of the InterAcademy Partnership Board & Advisory Committee

7 – 8 Oktober

Sabah Regional Stakeholder Engagement (RSE)

8 Oktober

Sesi Libat Urus - SIGQT

8 Oktober

Bengkel Pembangunan Kertas Posisi Teknologi Kuantum

8 Oktober 2024

Jawatankuasa Agrikultur WEHAB++ | Workshop on Optimising Paddy Cultivation through Precision Agriculture

12 Oktober

Program Ceramah Kerjaya: ASM Sabah Chapter

14 Oktober

NERA Engagement Session – Penang

14 – 15 Oktober

2nd International Conference on Tropical Sciences 2024

16 – 17 Oktober

Sarawak Regional Stakeholder Engagement (RSE)

18 Oktober

Peluncuran Pelan Hala Tuju Transformasi Air 2040 (AIR 2040)

29 Oktober

NOVEMBER

2024 YSN-ASM Chrysalis Award

7 November

NERA Engagement Session – Sabah

7 – 8 November

2024 YSN-ASM Colloquium

8 November

Karnival STI MADANI 2024

7 – 10 November

Program Pendidikan Alam Semulajadi Berasaskan Cendawan di Taman Bukit Tawau

12 – 14 November

Protecting Human Health by Safeguarding the Planet

19 November

Science Academies of Asia Forum (SAAF)

19-22 November

Seoul, South Korea

Sesi Perluasan Capaian Internet melalui Sistem Wireless Bridging

20 November

Sesi Libat Urus - Sarawak

21 – 22 November

Project STEM 60:40: Way Forward

26 November

Sesi Libat Urus - Kelantan

27 – 28 November

Majlis Apresiasi 2023 dan Perhimpunan Akhir Tahun 2024

29 November

23rd Science Council of Asia Conference & Management Board Meeting

30 November – 2 Disember

Virtual/Bangladesh

DISEMBER

Sesi Libat Urus NERA – Johor

4 – 5 Disember

Kunjungan Hormat daripada Beijing Association for Science and Technology (BAST)

6 Disember

Penandatanganan MoU antara Academy of Sciences Malaysia (ASM) dan Chinese Academy of Sciences (CAS)

9 Disember

Bengkel APEC - Women in STEM

12 Disember

Beijing, China

FASciate Siri 2 2024

19 Disember

PIHAK PENGURUSAN ASM

PEJABAT PRESIDEN

Norazwa Musiran, Juruanalisis Kanan & Pegawai Khas Presiden

PEJABAT KPE

Hazami Habib, Ketua Pegawai Eksekutif (KPE)
Nurul Rahimah Abu Bakar, Pegawai Khas KPE

Unit Hab Pengetahuan, Analitik Data & Input Strategik

Nasiha Syahirah Omar, Juruanalisis Kanan
Hayatun Syamilah Mohammad Jasni, Juruanalisis
Nur Hanisah Ismail, Juruanalisis
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Anuar Ahmad, Pembantu Tadbir

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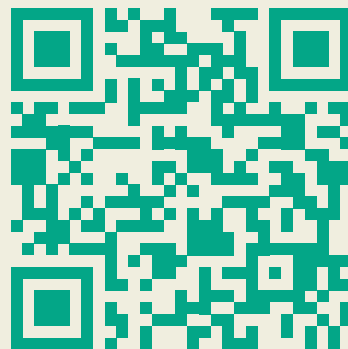
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 Centre for South-South Cooperation (ISTIC)**

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SCAN TO READ THE DIGITAL VERSION OF THIS REPORT



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Written and Designed by the Academy of Sciences Malaysia**

Cover Design Concept



The cover reflects the Academy of Sciences Malaysia (ASM) role as a Changemaker in STIE, symbolising collective intelligence through overlapping hands and puzzle pieces. It captures ASM's ethos, uniting experts, policymakers, industry leaders, and communities to drive national progress. This visually communicates the idea that meaningful change is built piece by piece, hand in hand, guiding Malaysia's transformation into a knowledge-driven society.

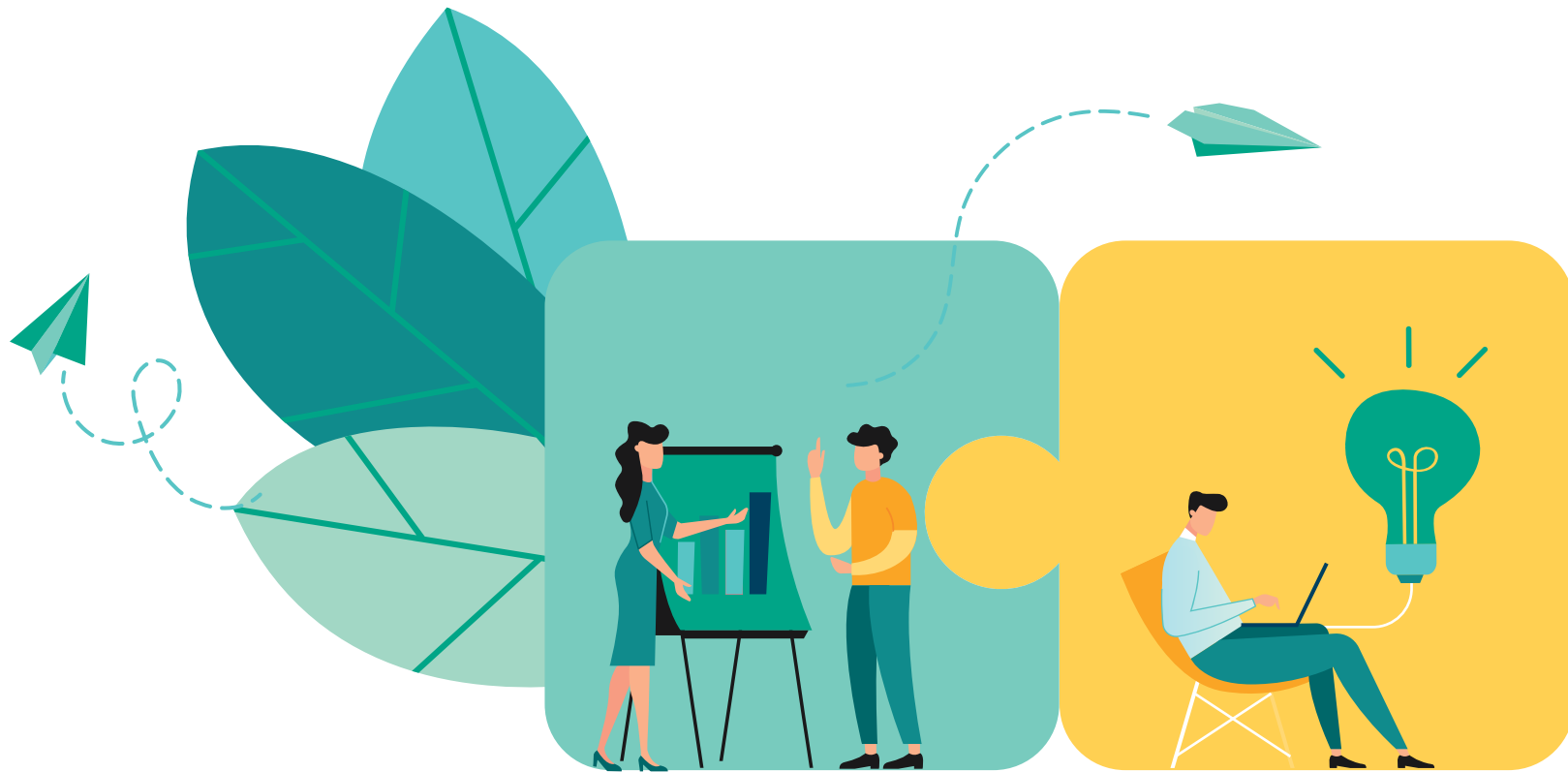
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Our Mission

To be a Thought Leader on STIE, nationally and internationally

To be the Advisory Body on national STIE policy and related matters

To be the Strategic Partner in STIE in Malaysia and global

To advocate and make STIE a basis for economic development and societal well-being, locally and globally

To engage the public through STIE communication

Our Vision

A Thought Leader in Science, Technology, Innovation and Economy (STIE) towards a progressive, harmonious, prosperous, and sustainable society, nationally and internationally



Our Goals

To become an independent Thought Leader on STIE, nationally and internationally

To become the trusted Advisory Body on national STIE policy and related matters

To become an influential Strategic Partner in STIE in Malaysia and globally

To become an impactful advocate and make STI a basis for economic development and societal well-being, locally and globally

To become an effective STIE communicator that attracts public engagement



Our Philosophy & Values

Society-oriented

Placing STIE for societal benefits

Credible

Reliable, impactful, and timely

Independent

Track and provide input on systemic issues without fear or favour

Evidence-based

Ensure what we do is informed by the best available knowledge

Network-centric

Dynamic Knowledge Convergence Platform (as an organisation that connects people together leveraging on the high trust factor of its stakeholders)

Transparent

Open engagement and process

Impactful

Deploy new and better ways for impactful outcome

Action-oriented

Turn initiatives into workable solutions that bring about sustainable change

Our Strategies

INDEPENDENT

Systematise ASM as an independent & impactful trailblazer in STIE

INFLUENTIAL

Expanding ASM's influence as a trusted partner at federal, state & global level

SUSTAINABLE

Securing sustainable resources for a progressive organisation towards supporting national interest

AGILE

Enhancing organisational agility by practising good governance & professionalism

NEXUS

Positioning ASM as preferred point of reference in all STIE matters

PROPONENT

Driving effective advocacy towards future-proof socio-economic sectors

CONVENE

Establishing effective science communication platforms with stakeholders at all levels

12 Action Plans



To maximise experts' involvement throughout national STIE planning in generating ideas, thoughts and knowledge



To intensify collaborations in strategic areas with sister academies & regional platforms



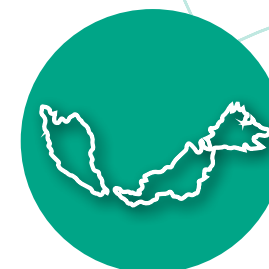
To undertake demonstration projects that can translate new ideas into action and build capacity with strategic partners to ensure sustainability



To upgrade organisational practices to adhere to national accreditation and international best practices



To assess & monitor organisational performance internally and externally to meet measurable outcomes and impact



To co-create high impact STIE initiatives at localities for transformation of socio-economic sectors



To systematise continuous monitoring & evaluation of STIE ecosystem



To set up a mechanism within ASM to generate revenue and ensure sustainable resources



To imprint multipotentialite qualities among our talent by nurturing high level competencies and capabilities in multiple subjects



To enhance competency & skills of talent for future readiness through foresighting with inclusive participation from the quadruple helix



To support career advancement of young researchers towards instilling the “World Class, Outstanding, Winnable” (WOW) mindset



To create the ecosystem of open science, open access and open innovation through collaborative platforms for disruptive innovation

Foreword by President

DRIVING TRANSFORMATIVE NATIONAL IMPACT THROUGH STIE

As the world continues to change, turning increasingly interconnected and complex, new challenges arise that diminish the effectiveness of systems, structures and frameworks constructed for an earlier era. The post-normal era has set in motion forces that result in greater uncertainty, characterised by complexity, chaos and contradictions. Innovations based on science and technology in particular, and knowledge systems in general, have emerged as key drivers of the evolving social, economic and political landscape.

Traditional hierarchical governance structures based on command-and-control methods are no longer tenable. Success will come from stronger collaboration and cooperation among stakeholders, where each will find its own agency within a tightly connected network of willing partners. Addressing national challenges effectively will require integrated knowledge systems and a whole-of-nation approach capable of harnessing the knowledge and wisdom of society as a whole.

While the traditional advisory role of ASM as a Think Tank will continue to be promoted, there is an urgent call for a more action-oriented role to show how value could be created through application of new knowledge in fresh ways. In moving the nation's development agenda forward, ASM is taking on the role of Changemaker in the development of STIE ecosystems that create value through seamless integration of R&D with economic systems. This report summarises the progress of major projects and interventions undertaken in 2024 as we embark on the journey to become an integrated think-and-do tank.



ASM President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc, shares his strategic insights during the 1st ASM Townhall Meeting - Conversation with Fellows



Courtesy visit to the Deputy Prime Minister, YAB Dato' Sri Haji Fadillah Haji Yusof

In 2024, ASM maintained its policy and strategy development efforts by conducting seminal commissioned studies while providing strategic inputs to key national-level councils and high-level meetings. Eleven presentations were made to national councils that drew insights from multiple strategic studies. The most important intervention is the presentation to the Cabinet highlighting key gaps and challenges faced in developing the national STIE ecosystem. This was followed by a proposal tabled to the National Science Council (NSC) on how to further empower NSC. Vital policy shifts were proposed and approved, to establish three key NSC entities that together strengthen their mutually-supporting role as prime movers responsible for orchestrating and coordinating the national STIE governance framework. NSC also adopted the mission-oriented approach proposed to tackle the nation's grand development challenges in a more integrated and coordinated manner, doing away with current practices based on sectarian interests, departmental silos and narrow specialisations. These efforts aim to create transformative impact on society and economy by fundamentally reshaping systems and practices, producing a shift in mindset and subsequently creating a new normal, driven by strong leadership and the collective action of all stakeholders.

ASM has consistently advocated for a national STI Act to formalise a legal mandate for STIE development. Following the practice of countries which have established strong STIE ecosystems, ASM is proposing that the act would be better understood by a change in name to the STI Promotion Act. This will make it clearer that the Act is meant to facilitate the development of a robust STIE ecosystem rather than to regulate or protect. Complementing the ecosystem development initiative, progress is being made in building the Malaysia Science Endowment (MSE), which ASM continues to spearhead. In 2024, six companies expressed interest, accompanied by increasing engagement with 30 international agencies.

ASM is intensifying its efforts to provide strategic contributions to national development based on cooperation and collaboration. Critical inputs are being provided in preparation for the 13th Malaysia Plan. Studies in education reform, the blue economy, planetary health, and the Research, Development, Innovation, Commercialisation and Economy Roadmap for Malaysia (RDICE) provide the analytical foundation to synthesise fresh recommendations and proposals for innovation-based development. Two studies are worth mentioning here, both commissioned by the Ministry of Economy (KE). The National Education Reform study offers a macro-level analysis of Malaysia's education sector to support comprehensive, evidence-based reforms. This will enable more carefully selected strategic investments that may lead to better outcomes in developing future-ready talent. Meanwhile, the Malaysia Blue Economy Blueprint presents a comprehensive and integrated plan to unlock the sustainable value of the nation's ocean resources for long-term national development.

At the state level, ASM provided pragmatic solutions to challenges faced, and helped in improving implementation on the ground. A notable example is the adoption of the Wireless Bridging System (WBS), a much-needed innovation to provide internet access to unserved or underserved communities. The WBS has been implemented successfully at several sites around the country, bringing much joy to citizens who would otherwise have remained unconnected. ASM collaborated with the Ministry of Science, Technology and Innovation (MOSTI) under the Social Innovation Programme, together with expert groups from Universiti Sains Malaysia (USM), Universiti Malaysia Terengganu (UMT), UCSI University, and key stakeholders in Langkawi, to conduct the Rehabilitation and Conservation Programme for *Gamat Emas*. In 2024, significant progress was made with the initial release of juvenile *Gamat Emas*, and a subsequent release is planned at a selected restoration site. Science Outlook 2025, ASM's flagship study, for the first time focuses on STIE development at the state and regional level. It will hopefully serve as a key reference for decision-makers, by providing a reality check on the nation's performance in STIE not just at the national scale, but throughout the entire country.

Expanding its reach from local to global engagements, ASM undertook several projects in 2024. The Tropical Science Foundation organised the International Conference on Tropical Sciences 2024 in Kuching, Sarawak, to advance tropical sciences, given Malaysia's unique hub for tropical research. Attended by more than 300 participants from 20 countries, a 'Kuching Declaration for the Tropics' was produced, asserting the urgency for stakeholders to collaborate in safeguarding the Tropics for a more sustainable future.



ASM President with KAST President, Professor Ook Joon Yoo, during the MoU signing between ASM and KAST

Regionally, ASM collaborated with the ASEAN Committee on Science, Technology, and Innovation (COSTI) in developing the 'ASEAN Ahead: ASEAN STI Ecosystem Foresight 2035 and Beyond'. The foresight study envisions ASEAN as a global innovation powerhouse by 2035, driven by STIE-enabled resilience, a values-driven ethos, and collective prosperity. Well-aligned with Malaysia's Chairmanship of ASEAN in 2025, this report presents a unique opportunity for the country to lead ASEAN member states in strengthening the region's STIE ecosystem. By adopting the mission-oriented approach, ASEAN nations may foster a shared vision and advance collective STIE sovereignty. The spirit of global collaboration was also advanced through bilateral and multilateral engagements. An MoU was signed with the Korean Academy of Science and Technology (KAST) and the Chinese Academy of Sciences (CAS) to widen our sphere of engagement, thereby enhancing knowledge exchange and collaboration, and elevating our scientific and innovative potential through mutual support.

Following early success of the Malaysia Open Science Alliance (MOSA) to promote open science in the country, ASM elevated the concept of APEC Open Science Alliance (APECOSA). The proposal was made in 2023, inviting APEC countries to share best practices and knowledge to address regional challenges. A landscape study to identify open science initiatives in APEC is being conducted and will be presented in 2025.



ASM President moderates the 1st Policy Dialogue on Facing a Post-Normal Era in the Tropics at the 2nd International TropSc Conference

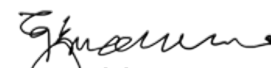
This annual report highlights how ASM is intensifying its efforts as a Changemaker in STIE development by careful application of S&T foresight to anticipate the future. As the world undergoes revolutionary transformation, norms that were once widely accepted are progressively fading away. Human systems of all kinds will be reviewed and renewed. In particular knowledge systems, including science and technology, and systems of value creation will see significant reform. We champion purposeful leadership among stakeholders and foster closer collaboration. Collective action in addressing mutually-agreed national missions will go a long way towards enhancing national resilience in facing unexpected shocks.

Consistent with the idea of paradigm shift, ASM maintains the conviction that change must begin from within. Our mindsets and attitudes need to adjust to the changing environment. Agile and proactive thinking will then set in to assimilate new norms which will enable us to reimagine, reinvent and reform the systems that shape our lives.

I trust that readers will find this report a useful guide to the future world that will come to pass. We in ASM look forward to working with all stakeholders in making that world as comforting, harmonious and prosperous as possible, for ourselves as well as for humanity as a whole.

We invite everyone to join us in remaking the nation for an even more prosperous, peaceful and sustainable future.

I would like to end by thanking all of our friends and supporters, for without their invaluable contributions we would not have been able to achieve these milestones.



**Academician Datuk Dr Tengku
Mohd Azzman Shariffadeen FASc**



ASM President, joined by CEO, Puan Hazami Habib, with the ASM Management during the Self-Awareness Training with President

From the CEO's Office



A Time to Sow

Since its establishment, ASM has played a pivotal role in providing advisory input to the government on matters of national importance, particularly in STIE. The journey to bridge science with policy, policy with science, has been a challenging yet rewarding process, requiring countless lessons, relentless effort, and years of refinement. Over the years, ASM has consistently delivered numerous advisory reports, with our monitoring indicating that at least 80% of our recommendations have been adopted. Yet, not all of these recommendations have been effectively implemented or translated into tangible actions. Recognising the need to enhance its impact, ASM embraced a new direction through its Strategic Plan 2021-2025, aiming to drive meaningful and transformative change.

The Cabinet's decision to appoint the ASM President as the STI Advisor to the YAB Prime Minister and the Nation in 2023 marked a significant milestone, further strengthening ASM's mandate and expanding its reach across the STIE ecosystem. The role of ASM as an effective Changemaker became increasingly evident in 2024, with impactful strides made at the state level. The Management played a key role in supporting the ASM President's efforts to engage stakeholders across various states. As a result, ASM's network with six states in 2024 opened the door to explore new opportunities and avenues for meaningful impact.

Several key studies and initiatives made remarkable progress. The National Planetary Health Action Plan (NPHAP), National RDICE Roadmap and the Position Paper on Blue Economy: Unlocking the Value of the Oceans, were among the efforts poised to spark transformative changes within Malaysia's STI ecosystem, shaping a better future for every Malaysian. In addition, ASM presented four advisory papers to national advisory councils, three papers at ministerial-level meetings, and one *Nota Jemaah Menteri* to the Cabinet, solidifying its role as a catalyst for impactful decision-making.

In 2023, ASM was entrusted as the implementing agency of MSE, a strategic initiative aimed at expanding access to alternative financing for STI-related activities. To lay the groundwork for the MSE, ASM undertook extensive efforts in 2024, focusing on building collaborations with industry and international partners through mechanisms such as matching grants, crowdfunding, waqf, and venture capital. In addition, ASM developed innovative ideas and reward mechanisms to attract industry contributions, which were submitted for consideration to the Ministry of Finance (MOF) and relevant government agencies. Our goal is to secure a significant number of committed industry partners by the time Malaysia officially launches the MSE.



We continued to foster meaningful collaborations with international counterparts, further enhancing our global presence. This year, ASM signed an MoU with two esteemed academies: KAST and CAS. These agreements underscored shared goals and reaffirmed a mutual commitment to strengthening partnerships that promote the common good and advance scientific progress. Additionally, the workshop on diagnostics and therapeutics, organised by ASM in collaboration with the Academy of Medical Sciences UK (AMS), garnered encouraging participation, reflecting the growing interest and engagement in this critical field.

At the state and regional levels, ASM Fellows, through the ASM Chapters, took the lead in coordinating and organising experts within their respective regions to deliver impactful programmes that benefit the communities they serve. With strong partnerships, support, and active involvement from local stakeholders, the ASM Chapters successfully conducted meaningful STEM enculturation and promotion initiatives, engaging students, teachers, and the general public.



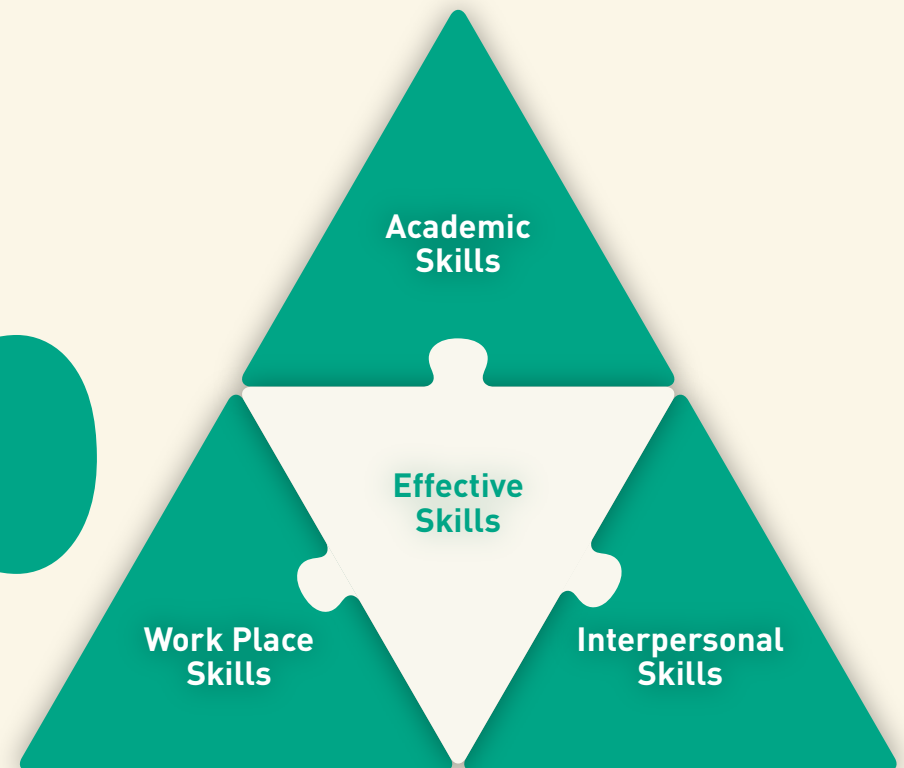
The Enabler, the Doer

Unlike any other statutory body, ASM thrives through the collaboration of two distinct yet equally vital groups: its Experts and its Management team. The Experts, through dedicated working committees and in-depth deliberations, provide invaluable advisory input and specialised opinions. Meanwhile, the Management team oversees ASM's programmes, activities, management and governance, ensuring seamless execution. Beyond operational duties, the Management team translates the rich knowledge, theories, and ideas generated by the Experts into actionable strategies and measurable outcomes.

In addition, the Management team also conducts meticulous data collection and analysis, integrating both hindsight and foresight. This holistic approach equips the Experts with critical insights, empowering them to formulate well-informed, impactful, and forward-thinking recommendations.

Serving as the critical bridge between the experts and policymakers, the ASM Management team carries out effective communication ensuring alignment with current national goals and future needs. This involves extensive consultations and partnerships with stakeholders at various level to understand the challenges and ecosystem. Through these efforts, the Management team ensures that ASM's recommendations are impactful, practical and widely embraced by its stakeholders, resulting in successful implementation and meaningful outcomes.

The growth of ASM Experts, particularly Fellows, has significantly bolstered ASM's capacity to conduct multiple studies and initiatives simultaneously, amplifying its impactful contributions. By the end of 2024, ASM had collaborated with 14 ministries, cementing its role as the national Thought Leader in STIE. Consequently, the demand for support from the Management team has grown exponentially.



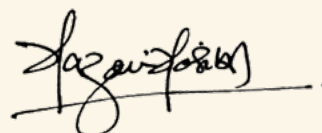
Managing an organisation that continually challenges boundaries, pioneers ideas, sets trends, and acts as a catalyst for change is undeniably demanding. It necessitates a Management team equipped with exceptional skills and the ability to confidently engage with the nation's leading experts, collaborating closely to drive the national agenda forward. ASM's sustained excellence in performance is built upon the harmonious synergy of academic expertise, practical workplace tools and methodologies, and dynamic interpersonal skills within its management framework.

The ASM Management values the transfer of knowledge and wisdom from its Experts. However, it must navigate the delicate balance between seizing opportunities for growth and development and addressing pressing demands, high expectations, and frequent talent turnover. The resilience and confidence of younger talent often fall short, while the remaining skilled and experienced staff shoulder the immense responsibility of preserving tacit knowledge and propelling ASM's objectives forward. To ensure continuity and long-term success, ASM must prioritise sustaining its talented team. With optimism, I believe the coming year holds great potential for progress and advancement at ASM.

Acknowledgement

The year 2024 challenged us and taught valuable lessons. In the end, we navigated the year with preservation, passion and commitment. We achieved key milestones as we do every year guided by our purpose and philosophies.

This was possible thanks to the leadership of the ASM Council, especially ASM EXCO, the support of ministry colleagues, and the contributions of ASM Experts. Their involvement in ASM initiatives helped us fulfill our role as the nation's STIE Thought Leader. I am also deeply grateful to the ASM Management team for their dedication to ASM's vision and mission, which has been key to our success.



Hazami Habib



ASM CEO with the President at the Water Sector Transformation 2040 Launch

Corporate Governance

At ASM, we are dedicated to maintaining the highest standards of corporate governance through transparency and accountability while fostering a culture of integrity and professionalism. Recognising the need for organisational resilience in today's dynamic business environment, ASM aims to become an agile organisation that integrates people and technology as a unified system. This section provides an overview of how we carry out our mandate efficiently.

ASM Council

ASM, established by the Academy of Sciences Malaysia Act 1994, is governed by the ASM Council. The Council is responsible for setting the policies and strategic direction of ASM, overseeing the execution of its 14 key functions, and managing ASM's affairs. Additionally, the Council ensures that ASM maintains its independence and credibility in advocating for STIE issues of national and international significance, as well as administering ASM Fund.

Composition and Selection of ASM Council

The ASM Council consist of Fellows, and its membership comprises the President, Vice-President, Secretary-General, Honorary Treasurer and 12 Ordinary Council Members. The President is appointed from among Fellows for a three-year term by the SPB Yang di-Pertuan Agong based on the recommendation of the Minister of MOSTI. The President is eligible to be reappointed for a second term provided that the person does not hold the position for six consecutive years.

Besides the President, all other members of the Council are nominated by ASM Fellows from among Fellows. Each year, Fellows elect incoming Council members at the ASM's Annual General Meeting (AGM). Fellows elected for the position of Vice-President, Secretary-General, Honorary Treasurer and 12 Ordinary Council Members are eligible to serve the position for two years. They are eligible to be re-nominated for the same position at the end of their term, provided the person does not hold the same position for four consecutive years.

Each year, several positions in the Council lineup fall vacant, and new members are elected to fill the positions at the AGM. The occurrence of outgoing and incoming Council members allows Fellows to take part in the governance of ASM apart from ensuring sustainability and continuity of ASM policies.

Council Members

President

1. Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Vice-President

2. Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc

Secretary-General

3. Professor ChM Dr Noorsaadah Abd Rahman FASc

Honorary Treasurer

4. Academician Emeritus Professor Datin Paduka Setia Dato' Dr Aini Ideris FASc

Ordinary Members

5. Professor Dr Ahmad Ismail FASc
6. Ir Ts Choo Kok Beng FASc
7. Datuk Fadilah Baharin FASc
8. Professor Dato' Dr Jafri Malin Abdullah FASc
9. Professor Dr Kurunathan Ratnavelu FASc
10. Professor Dr Mahendhiran Sanggaran Nair FASc
11. Dr Mohamad Kamal Hj Harun FASc
12. Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc
13. Emeritus Professor Dr Phang Siew Moi FASc
14. Professor Dr Rofina Yasmin Othman FASc
15. Professor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc
16. Dr Zainal Ariffin Ahmad FASc



Conflict of Interest

Council Members are obligated to disclose any direct or indirect involvement in any items presented to the Council. If a conflict of interest is declared, the member must refrain from participating in the decision-making process and be absent for the duration of the relevant agenda item. This disclosure and the member's absence are documented in the meeting minutes.

Roles of President and CEO

The roles and responsibilities of the President and the Chief Executive Officer (CEO) are clearly defined and distinct. The President serves as the leader of ASM, guiding ASM Council in shaping the organisation's direction, policies, principles, stand, and activities. In this role, the President also leads discussions on all matters brought before the Council. Together with the Executive Committee (EXCO) members, the President ensures that the decisions made by the Council are effectively translated into actionable steps and executive initiatives.

Based on the Cabinet Meeting held on 22 June 2022, the Malaysian Government appointed the ASM President as the STI Advisor to the Prime Minister and the Nation. The Council agreed for ASM to provide support and facilitation to the President in carrying out the duty of the STI Advisor. Considering the additional role and responsibilities of the President, the Council further agreed for the President to be remunerated. Therefore, the President is paid a monthly honorarium for the joint function as the STI Advisor, while the position of the ASM President would remain pro bono.

Whereas the CEO is the chief controlling officer of ASM, responsible for leading the ASM Management and overseeing the overall administration matters. The CEO's role includes strategising and translating Council decisions into executive actions based on ASM's existing strategies, policies and procedures. At the operational level, the CEO reports to the top management of the ministry and attends the ministerial level meetings representing ASM. The CEO is appointed by the Council and is a civil servant salaried by ASM.

Council Meetings and Members' Attendance

ASM Council Meetings are to be chaired by the President. The Meetings will discuss matters that require approval, deliberation, and notification. The following are reports presented at ASM Council Meetings:

- (i) Minutes of Executive Committee Meeting
- (ii) Report of Finance Committee
- (iii) Report of Science, Technology and Innovation Policy Advisory Committee (STIPAC)
- (iv) Report of Membership Committee
- (v) Report of Publication Committee
- (vi) Report of International Committee
- (vii) Report of Audit Committee
- (viii) Report on KPI for ASM and Ministry

In addition to the reports mentioned above, ASM Management also tables proposals for new programmes or studies for the Council's approval, along with updates on the progress of ongoing programmes or studies. In 2024, the Council convened five meetings. The following were the dates of the meetings:

158 th Council Meeting	8 February 2024	Hybrid
159 th Council Meeting	4 April 2024	Hybrid
Special Council Meeting	23 April 2024	Hybrid
160 th Council Meeting	12 August 2024	Hybrid
161 st Council Meeting	12 December 2024	Physical

Below is the attendance record of Council Members for the meetings held in 2024:

Position	Name	Term	Meeting Attended
President	Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc	1 st term: 2023 - 2026	5/5 (100%)
Vice-President	Professor Dato' Ir Dr A. Bakar Jaafar FASc	1 st term: 2020 - 2022 2 nd term: 2022 - 2024	3/3 (100%)
	Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc	1 st term: 2024 - 2026	2/2 (100%)
Secretary-General	Professor ChM Dr Noorsaadah Abd Rahman FASc	1 st term: 2023 - 2025	5/5 (100%)
Honorary Treasurer	Academician Emeritus Professor Datin Paduka Setia Dato' Dr Aini Ideris FASc	1 st term: 2021 - 2023 2 nd term: 2023 - 2025	3/5 (60%)
Ordinary Council Members	Professor Dr Ahmad Ismail FASc	1 st term: 2023 - 2025	3/5 (60%)
	Ir Ts Choo Kok Beng FASc	1 st term: 2023 - 2025	2/2 (100%)
	Datuk Fadilah Baharin FASc	1 st term: 2023 - 2025	4/5 (80%)
	Professor Dato' Dr Jafri Malin Abdullah FASc	1 st term: 2021 - 2023 2 nd term: 2023 - 2025	5/5 (100%)
	Professor Dr Kurunathan Ratnavelu FASc	1 st term: 2023 - 2025	3/5 (60%)
	Professor Dr Mahendhiran Sanggaran Nair FASc	1 st term: 2021 - 2023 2 nd term: 2023 - 2025	4/5 (80%)
	Dr Mohamad Kamal Hj Harun FASc	1 st term: 2021 - 2023 2 nd term: 2023 - 2025	4/5 (80%)
	Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc	1 st term: 2024 - 2026	2/2 (100%)
	Emeritus Professor Dr Phang Siew Moi FASc	1 st term: 2024 - 2026	1/2 (50%)
	Professor Dr Rofina Yasmin Othman FASc	1 st term: 2023 - 2025	3/5 (60%)
	Professor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc	1 st term: 2024 - 2026	2/2 (100%)
	Dr Zainal Ariffin Ahmad FASc	1 st term: 2024 - 2025 (appointed by Council upon casual vacancy)	2/2 (100%)
	Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc	1 st term: 2023 - 2025	3/3 (100%)
	Dato' Seri Ir Dr Zaini Ujang FASc	1 st term: 2022 - 2024	1/3 (33%)
	Professor Dato' Dr Ahmad Ibrahim FASc	1 st term: 2020 - 2022 2 nd term: 2022 - 2024	2/3 (67%)
	Professor Dr Yvonne Lim Ai Lian FASc	1 st term: 2020 - 2022 2 nd term: 2022 - 2024	3/3 (100%)
	Professor Dato' Ir Dr Mohd Saleh Jaafar FASc	1 st term: 2022 - 2024	1/3 (33%)

Council members do not receive remuneration; however, they are entitled to a meeting allowance for their attendance. The President, as chairperson, receives RM750 per meeting, while other members are paid RM500 per meeting.

Availability of Information

Council Members are provided online access to the meeting documents at least two days prior to the meeting. Each member is required to study the documents and agenda provided before the meeting for an effective discussion. The Council Meeting document consists of at least the following matters:

- Minutes of the last meeting;
- Committee Reports requiring Council's approval; and
- Report on ASM programmes and studies.

Annual General Meeting (AGM)

The 29th AGM was held in hybrid mode on 22 June 2024, attended by 208 Fellows. The Meeting endorsed the minutes of the 28th AGM and approved the Financial Statements ending 31 December 2023 and the 2023 Annual Report to be tabled at the Parliament. The 2023 ASM Annual Report was approved by Dewan Rakyat on 12 December 2024 and Dewan Negara on 16 December 2024. Besides that, the 29th AGM elected 31 new Fellows for the year 2024, bringing the total Fellowship to 509.

Newly Elected Fellows (names in alphabetical order)

Chemical Sciences

Professor Dr Habibah A Wahab FASc

Engineering Sciences

Professor Ir Dr Chai Siang Piao FASc

Professor Dr Hazizan Md Akil FASc

Professor Ir Dr Hazlie Mokhlis FASc

Professor Ir Dr Kaharudin Dimyati FASc

Professor Ir Dr Khairul Salleh Mohamed Sahari FASc

Professor Ir Ts Dr Mohd Rizal Arshad FASc

Ir Ts Dr Nordin Ramli FASc

Professor Dato' Ir Ts Dr Othman A Karim FASc

Professor Ir Ts Dr Sharifah Rafidah Wan Alwi FASc

Professor Dr Wong Shaw Voon FASc

Information Technology and Computer Sciences

Professor Ts Dr Norita Md Norwawi FASc

Professor Ir Dr Sim Kok Swee FASc

Mathematics, Physics, and Earth Sciences

Professor Dr Mohd Rafie Johan FASc

Professor Ts Dr Muhammad Hisyam Lee FASc

Professor Dr Wan Haliza Abd Majid FASc

Medical and Health Sciences

Professor Dr Nortina Shahrizaila FASc

Professor Dr Poh Bee Koon FASc

Professor Dr Tilakavati Karupaiah FASc

Professor Dr Woo Yin Ling FASc

Science & Technology Development and Industry

Mr Chan Pak Kuen FASc

Professor Ir Ts Dr Khalina Abdan FASc

Dato' Ng Tong Se FASc

Ir Dr Selamat Aliman FASc

Dr Supramaniam Shanmugam FASc

Social Sciences and Humanities

Professor Dr Azmawani Abd Rahman FASc

Emeritus Professor Dato' Dr Noraini Idris FASc

Senior Professor Dr P'ng Tean Hwa FASc

Professor Ts Dr Shahrina Md Nordin ACM FASc

Professor Dr Stefanie Shamila Pillai FASc

Dr Sumit Mandal FASc

At the 29th AGM, five positions, including one position of Vice-President and four positions of Ordinary Council Member, fell vacant. The following Fellows were elected as Council Members for the term 2024-2026:

1. Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc as the Vice-President;
2. Ir Ts Choo Kok Beng FASc as an Ordinary Council Member;
3. Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc as an Ordinary Council Member;
4. Emeritus Professor Dr Phang Siew Moi FASc as an Ordinary Council Member; and
5. Professor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc as an Ordinary Council Member.

ASM Committees

The ASM Council forms various committees and delegates its responsibilities to these committees to ensure smooth operations of ASM. As such, the Council has the authority to establish a committee and appoint the chairperson. The Council also periodically reviews the performance of these committees and closes them upon completion of their tasks.

To support its programmes and studies, the Council establishes working committees, task forces, and Special Interest Groups (SIGs). These committees typically comprise members from the ASM Expert Network, particularly ASM Fellows and external experts. In 2024, ASM established 47 committees and 29 task forces and closed 8 committees.

Executive Committee

The ASM Executive Committee, referred to as EXCO, is responsible for monitoring and overseeing the affairs of ASM apart from supporting the implementation of ASM functions. EXCO is referred to by ASM Management for urgent approval and advice on managing the day-to-day operations. The Committee deliberates and reviews programme proposals and draft ASM policies prior to tabling them to the ASM Council for approval.

EXCO, comprising the President, Vice President, Secretary-General, and Honorary Treasurer, convenes at least four times a year. The meetings are chaired by the President. ASM EXCO had five meetings in 2024.

81 st EXCO Meeting	18 January 2024	Physical
82 nd EXCO Meeting	21 March 2024	Hybrid
83 rd EXCO Meeting	23 May 2024	Physical
Special EXCO Meeting	2 July 2024	Online
84 th EXCO Meeting	15 July 2024	Physical

Finance Committee

The Finance Committee is responsible for overseeing the planning, implementation, and monitoring of procedures, systems, and financial reporting related to ASM's financial management.

The functions of the Finance Committee comprise the following:

- Arrange and control the finance of ASM;
- Consider and endorse the estimated yearly budget for ASM and seek Council's approval;
- Review and endorse the yearly Financial Statements of ASM and seek Council's approval;
- Provide advice related to investment;
- Review the investment performance reports of ASM Funds;
- Approve finance and accounts-related policies and recommend the adoption of government circulars if relevant to ASM; and
- Approve the disposal of ASM assets and write-off of debts.

The Finance Committee is chaired by the Honorary Treasurer and consists of at least six members from among Fellows. It convenes its meetings at least six times a year. Finance Committee met eight times in 2024.

Audit Committee

The Audit Committee was established to improve the internal control of ASM and identify weak points in its management and governance. The chairperson of the Audit Committee is appointed by the ASM Council. The Committee comprises four members and convenes its meetings at least four times a year.

The Audit Committee is responsible for establishing yearly audit activities, which include an audit charter and conducting a study on the capacity and effectiveness of ASM's internal control. Any instances of malpractice detected during their oversight are promptly reported to the ASM Council, ensuring swift and necessary action is taken. However, the Committee's operations, including its scheduled meetings, are temporarily suspended until the vacancy for the internal auditor position is successfully filled.

Membership Committee

The Membership Committee is chaired by the Vice-President, with 18 members including the Secretary-General and Chairperson of Discipline Groups. The Committee is responsible for guarding the quality of ASM membership. As such, it recommends policies, procedures, and strategies to maintain a well-balanced pool of expertise among its members in supporting the needs of ASM. It also oversees the selection process of new Fellows and appointment of Associates and recommends shortlisted candidates to the Council. Besides that, the Committee is also responsible for managing matters of membership affairs. This Committee convenes at least twice a year. The Committee had three meetings in 2024.

Science, Technology and Innovation Policy Advisory Committee

The Science, Technology, and Innovation Policy Advisory Committee (STIPAC) coordinates, consolidates, and evaluates study proposals or reports prepared by the study committees. As an oversight committee, STIPAC ensures that all recommendations put forward by ASM through various study reports, reviews, and proposals are positioned to fulfil the nation's importance. All proposal papers or study reports must be approved by STIPAC prior to submission to relevant ministries.

The STIPAC meetings chaired by the President convene at least four times a year and in 2024, STIPAC met seven times. The Committee has 29 members, comprising chairpersons or representatives from the eight discipline groups and several other committees, which are deemed strategic and relevant.

Publication Committee

The ASM Publication Committee, chaired by the Secretary-General, oversees the management of ASM publications, which include books, scientific books, reference modules, biographies, journals and digital content such as e-estidotmy. The Committee is supported by the Chief Editor of ASM Science Journal, the Chief Editor of e-estidotmy, and the Alternate Chair of Discipline Groups as its members.

The Committee is responsible for developing publication policies and overseeing the management aspect and annual publication plans. It also focuses on the sales, distribution, and marketing of ASM's publications. The committee meets at least twice a year and held one meeting in 2024.

ASM Expert Network

ASM harnesses the expertise of its expert network to execute its role and function. ASM's Conferment of Fellowship and Recognition of the 2024 Top Research Scientists Malaysia (TRSM) recipients will be held in 2025 to confer the 31 newly elected Fellows and award the 25 research scientists as the 2024 TRSM.

As such, at the closing of the year, ASM had 1,024 experts consisting of 505 Fellows, 178 TRSM recipients, 299 Young Scientists Network (YSN-ASM) members, 30 Associates and 12 Mahathir Science Award Laureates.

Our People

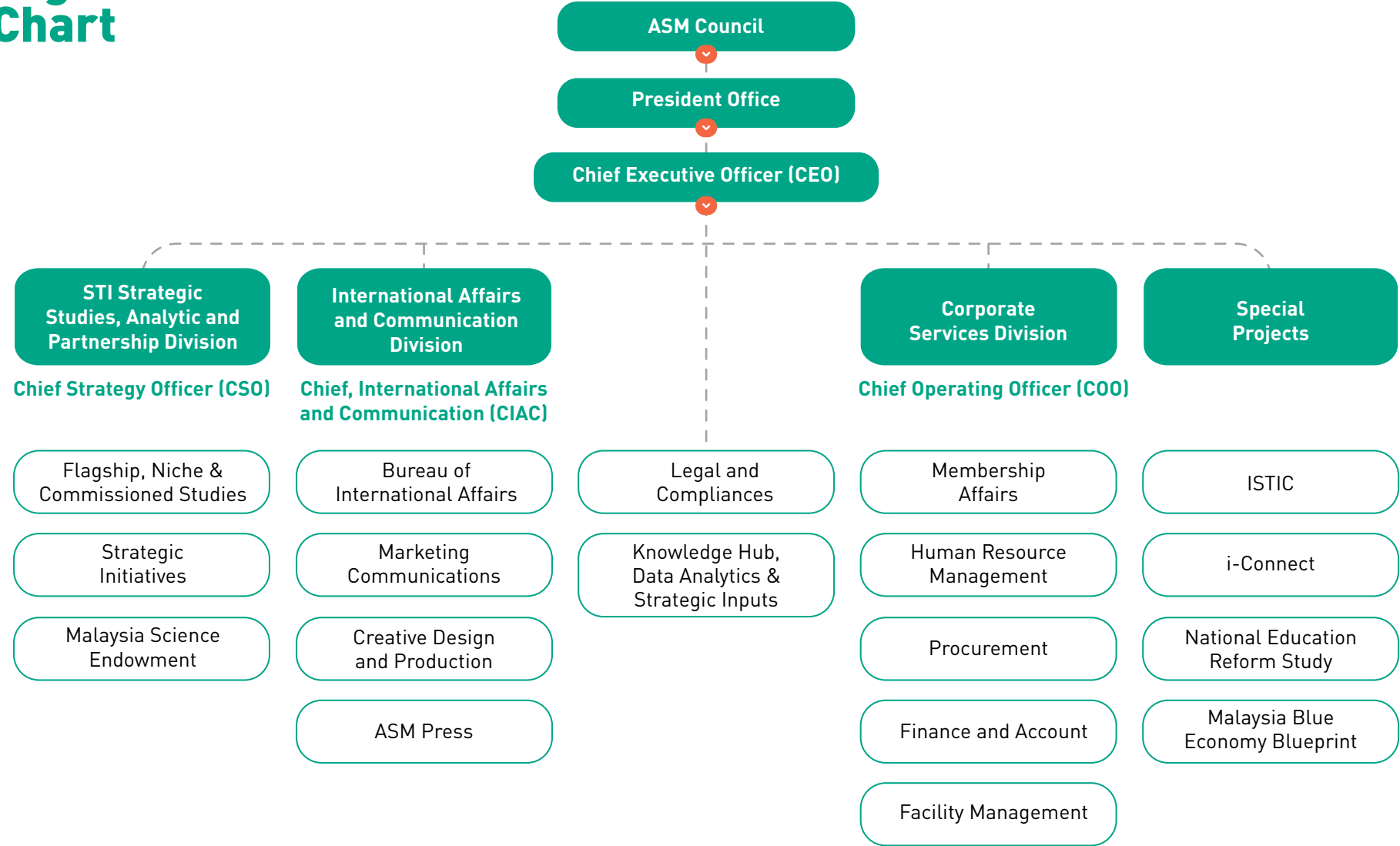
ASM Management is led by the CEO and is supported by three Chief Officers who regulate, monitor, plan, execute and manage the operations of ASM. The Management comprises staff from the Higher Management Group (1%), Management and Professional Group (70%) and the Support Group (29%). The management team consists of civil servants appointed and salaried by ASM. 9% of ASM staff are permanent appointees, while 91% are appointed under the Contract of Services (CoS) scheme. A total of 39 analysts, 26 executives, and 29 support staff carry out the planned studies and programmes as well as manage the administration and finance of ASM.

The STI Strategic Studies, Analytics, and Partnership Division, led by the Chief Strategy Officer (CSO), is responsible for conducting strategic studies, including those commissioned by strategic partners, and implementing initiatives and pilot projects in niche areas. This division also conducts foresight activities, data analysis and drafting of reviews related to STIE.

The International Affairs and Communication Division, led by the Chief of International Affairs and Communication (CIAC), is responsible for managing international relations and programmes, as well as effectively communicating ASM's work to a wider audience. The division also oversees ASM's corporate communications with external stakeholders.

The Corporate Services Division, led by the Chief Operating Officer (COO), plays a key supporting role in assisting all divisions and units in carrying out their activities. This division is responsible for managing and overseeing day-to-day administration, operational functions and improvement of process and governance. The division comprises of administration, finance, procurement, assets and facilities, human resources, and membership affairs within ASM.

ASM Management Organisation Chart



ADVANCING KNOWLEDGE, POWERING PARTNERSHIPS & TRANSFORMING STIE ECOSYSTEMS





ASM: Connecting with Local Actors

Strengthening Regional Engagement Towards Greater Collaboration

Since 2023, ASM has actively engaged with 6 states through state visits to strengthen regional collaboration and address local challenges, further solidifying its position as a Thought Leader and Changemaker in STIE. These engagements have helped to open direct communication with stakeholders, offering valuable insights into their needs, challenges, and opportunities. It also brings ASM Expert Network's active participation and contribution to their respective state and region through ASM Chapters.

These visits have underscored the importance of listening attentively to those working on the ground and tailoring solutions to meet local needs. A thriving innovation ecosystem must emerge organically, driven by actors who voluntarily come together to form collaborative networks of like-minded partners. The key to progress lies in identifying the right stakeholders, those who are ready and willing to work towards a shared mission. This can only be achieved by establishing effective communication channels and cultivating partnerships for joint action.

As STI Advisor to the Prime Minister and the Nation, the ASM President visited Kedah, Pulau Pinang, and Kelantan in 2024. These visits gave ASM invaluable insights into each state's strengths, emerging opportunities, and pressing challenges.

Summary of overall potential collaborations with states from the visits

KEDAH

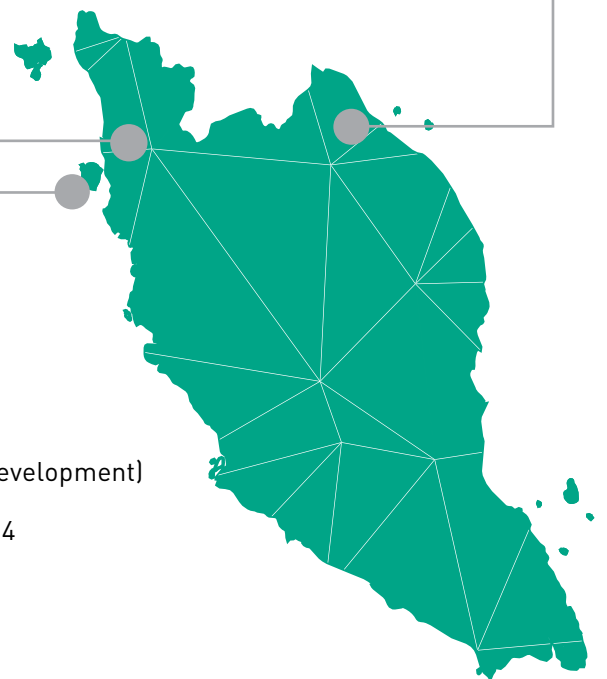
- Blue Economy
- Social innovation (Gamat, oyster & crab)
- Endogenous knowledge – aquaculture, marine & climate as well as plant/ gamat medicinal purposes
- Ecotourism & biodiversity conservation
- Planetary Health
- Fertiliser for paddy
- Social innovation project for paddy farmers (source of income)
- STEM talent & latest knowledge
- Wireless Bridging System
- Innovation ecosystem
- Water issue – flood & drought

KELANTAN

- Kelantan Science & Technology Centre
- Water issues
- Drought & flood-resistant variety seeds and micronutrient fertiliser for paddy

PENANG

- Social innovation (Oyster & vanilla)
- MSE (Semiconductor & STEM talent development)
- Blue Economy
- ASM Northern Chapter Roadshow 2024





Official visits to Kedah, Penang, and Kelantan by the ASM President

Menteri Besar Kedah:

Discussed high-priority state and regional development strategies with YAB Dato' Seri Haji Muhammad Sanusi Md Nor.

Chief Minister of Penang:

Discussed future directions of the E&E industry with YAB Chow Kon Yeow to gain his views and potential state support for initiatives we are considering.

Lembaga Kemajuan Pertanian Muda (MADA):

Explored the role of MADA in advancing agriculture and its impact on local economies.

AT&S Plant Opening Ceremony:

Highlighted the rising importance of advanced packaging technologies and substrates in taking the E&E industry to the next level of global competitiveness.

KAiROS Agriculture and SeaHarvest Aquamarine:

Focused on innovative opportunities in agriculture and aquaculture for social innovation, particularly in vanilla cultivation and oyster farming, and their potential to drive economic growth.

Penang Skills Development Centre (PSDC) and the Centre for Marine and Coastal Studies (CEMACS):

Discussed workforce, talent development, and marine and coastal research.

Universiti Sains Malaysia (USM):

Engaged with the Vice-Chancellor Professor Dato' Seri Ir Dr Abdul Rahman Mohamed FASc, and his team to explore the potential to bolster university-industry collaborative R&D in Malaysia's E&E sector.

CREST Incubator for Start-up Companies:

Gained insights on early-stage companies addressing Malaysia's E&E industry needs, fostering the growth of the research, development, and commercialisation (R&D&C) ecosystem.

Digital Penang:

Focused on capturing opportunities in the digital economy and promoting a digitally engaged society.

Northern Corridor Implementation Authority (NCIA):

Gained insights into the statutory body's strategies for advancing socioeconomic development in the Northern Corridor Economic Region (NCER).

Lembaga Kemajuan Pertanian Kemubu (KADA):

Examined water shortage issues adversely affecting paddy cultivation in Kedah.

Universiti Malaysia Kelantan (UMK):

Engaged with the university's mission centred on entrepreneurship education and enterprise development.

EXCO of Education, Higher Education, Green Technology, Digital, and Innovation Kelantan:

Discussed educational and technological advancements with YB Ustaz Wan Roslan Wan Hamat. The state's effort to establish a Science and Technology Centre in Kelantan was followed up with the collaboration with the Yayasan Inovasi Malaysia in setting up a Maker Space in Kota Bharu.

Menteri Besar Kelantan:

Discussed on water and agriculture issues with YAB Dato' Panglima Perang Ustaz Dato' Haji Mohd Nassuruddin Haji Daud. ASM proposed the introduction of science education in Tahfiz schools through new methodologies, such as the IBSE, which was well received.

Kelantan Observatory at Pantai Mek Mas:

Gained a greater understanding of the project and exchanged ideas on its role in astronomical studies and ecotourism activities.

Jeram Mengaji Agro Resort:

Explored its potential in eco-tourism and edu-tourism, as well as the potential to offer STEM education in the field.

Presentations at High-Level Councils

Research, Development, Innovation, Commercialisation and Economy Roadmap Presentation to the National Science Council

14 May 2024

National Science Council (NSC) was officially established on 22 September 2015 following approval by the Cabinet of Malaysia. As Malaysia's apex decision-making body for STI, the NSC is mandated to lead the formulation, coordination, and monitoring of national STI policies.

The RDICE Roadmap was presented to the National Science Council (NSC), chaired by the Deputy Prime Minister, YAB Dato' Sri Fadillah Yusof, on 14 May 2024.

This roadmap was adopted as a foundational plan by the Ministry of Economy (KE) in the rolling out of a National RDICE Action Plan 2025–2030 to attract investors and enhance the development of homegrown technologies, products and services. The action plan will serve to further consolidate and expand Malaysia's RDICE ecosystem, aligning innovation initiatives with national economic priorities.

ASM Presentation to the National Science Council on the Empowerment of the NSC

4 November 2024

To further strengthen NSC's mandate and bridge the gaps in RDICE, ASM presented a paper titled "*Pemeriksaan Majlis Sains Negara (MSN) untuk Meneraju dan Memantau Pengukuhan Ekosistem Sains Negara*".

Among the key recommendations presented in the paper was the establishment of the *Jawatankuasa Koordinasi dan Pemantauan Sains Negara (JKPSN)* chaired by the Chief Secretary General to the Government, the NSC Advisory Panel, and a permanent and professional NSC Secretariat.

Mesyuarat Majlis Tindakan Ekonomi Negara (MTEN)

5 December 2024

The National Economic Action Council (MTEN) is an economic advisory council to the Government, established on 7 January 1998. The council acts as a leader in the comprehensive economic planning implementation, and monitoring of the national economy, with an emphasis on cross-ministerial and agency decision-making to solve structural issues.

Pursuant the National Science Council's decision on the way forward of the RDICE Roadmap in May 2024, ASM had jointly prepared a paper with MOSTI as well as KE on RDICE. The RDICE Action Plan is an extension of the RDICE Roadmap developed by ASM and emphasises the importance of innovation and commercialisation as main contributors to socioeconomic growth and the need to enhance private sector participation by attracting relevant investors.

The RDICE Action Plan incorporates most of the analysis from the RDICE Roadmap with the goal of optimising resource utilisation across Malaysia and enhancing commercialisation and R&D activities towards Malaysia becoming a preferred global R&D hub with a robust RDICE ecosystem.

The MTEN, chaired by the Prime Minister, in principle, approved of the RDICE Action Plan and have requested that the strategies be further validated prior to launching the document.



Cabinet Meeting

2 October 2024

In response to a request by the YAB Prime Minister, ASM President, also the STI Advisor to the Prime Minister and the Nation, presented to the Cabinet on the gaps and challenges within the STIE ecosystem to provide clarity and insights to Cabinet members. A Cabinet note (*Nota Jemaah Menteri*) titled “*Status, Cabaran dan Jurang Semasa dalam Transformasi Ekosistem Sains, Teknologi, Inovasi Dan Ekonomi Negara*” was submitted and presented to the Cabinet.

Through this presentation, ASM also proposed strategic measures aimed at transforming the nation’s STIE ecosystem to support balanced economic, societal, and environmental development.

Following this, the President presented a paper at the NSC meeting on 4 November 2024. The paper focused on the proposed governance structure and strategic inputs to reinforce NSC’s role in ensuring a resilient and effective STIE ecosystem.

Mesyyarat Jawatankuasa Pemandu Bakat STI Negara

23 October 2024

ASM presented a paper on “*Pembangunan Bakat: Pegawai Pemindahan Teknologi Profesional (TTP) dalam Melengkapkan Ekosistem Inovasi Negara*” to the members of the *Mesyyarat Jawatankuasa Pemandu Bakat STI Negara*, chaired by YB Minister MOSTI.

Findings and recommendations outlined in the RDICE Roadmap that was developed by ASM for MOSTI, focused on the need for “technology transfer officers (TTOs)/technology transfer professionals (TTPs)”.

A follow-up meeting involving the Public Service Department (JPA), ASM, Ministry of Higher Education (KPT) and Malaysian Research Accelerator for Technology & Innovation (MRANTI) on institutionalising the position of TTPs in Malaysia and operationalising the above recommendations will be organised.

Business Model for the Development of Malaysia's Ion-Adsorption Clay Rare Earth Elements Industry

Malaysia is a key player in the global rare earth elements industry (REE) processing, contributing around 11% of the world's supply and showing strong potential. Malaysia is also a major supplier of separated REEs from the Lynas Advanced Material Plant (LAMP) to countries like Japan, Vietnam, and Thailand, where they manufacture permanent magnets and other value-added products.

In line with this strategic role, ASM formulated and presented the Business Model for the Development of Malaysia's Rare Earth Industry, now Business Model for the Development of Malaysia's Ion-Adsorption Clay Rare Earth Elements (IAC-REE) Industry, commissioned by the Ministry of Natural Resources and Environmental Sustainability (NRES).

ASM participated in three key meetings this year to brief on Malaysia's REE industry's current landscape, opportunities, and challenges. These meetings were joined by President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc, Dato' Sia Hok Kiang FASc, Mr Loganathan Ponnambalan FASc, Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc, and Academician Datuk Fateh Chand Pars Ram FASc, respectively.

High-level multi-ministry meeting convened by NRES

26 March 2024

The session brought together, Minister of NRES, YB Tuan Nik Nazmi Nik Ahmad; Minister of Investment, Trade and Industry (MITI), YB Senator Tengku Datuk Seri Utama Zafrul Tengku Abdul Aziz; Minister of KE, YB Dato Seri Mohd Rafizi Ramli; and Minister of MOSTI, YB Tuan Chang Lih Kang, who deliberated on the proposed Business Model for the Development of Malaysia's IAC-REE Industry, formulated by ASM as commissioned by NRES.

The meeting highlighted the need for a clear, coordinated incentive structure to boost industry confidence, given the shared federal-state roles in managing the sector. It stressed the importance of a strong regulatory and legal framework to guide future growth and safeguard national interests. Proactive policies were also seen as essential to regulate exports across the value chain and prevent uncontrolled resource exploitation. A key outcome of the meeting was the decision to submit a deliberation paper to further deliberate on the proposed business model, regulatory frameworks, and implementation strategies needs to be submitted to MTEN.

Special Select Committee on Environment, Science and Plantation, Parliament of Malaysia

26 June 2024

The session was chaired by YB Datuk Haji Ahmad Mohamed @ Hashim, Member of Parliament for Kuala Terengganu, and attended by six other Members of Parliament. The Committee was informed that Malaysia has the potential to deliver significant economic returns and strategic advantages for the country. We have an estimation of 16.1 million metric tonnes of ion-adsorption clay rare earth elements resources, carrying a potential economic value exceeding RM809.6 billion.

Meeting of Ministers and State Executive Councillors Responsible for STI (MEXCO-STI)

23 September 2024

ASM presented on “*Ketersediaan Teknologi, Kepakaran dan Model Perniagaan bagi Industri Unsur Nadir Bumi Bukan Radioaktif (NR-REE/IAC-REE) di Malaysia*” to seek consideration from MEXCO-STI, chaired by Minister of MOSTI towards the strategic development of Malaysia's IAC-REE industry through structured collaboration with

state governments.

The paper outlined Malaysia's readiness to support the growth of a sustainable and competitive IAC-REE sector and the importance of establishing a strong, coordinated ecosystem between the federal government and state authorities across three key enablers — technology, talent development, and business models. The key observations were the need for strengthened communication channels, stakeholder engagement mechanisms to ensure greater alignment, and coordination between federal agencies and state authorities. Transparency in information sharing to facilitate informed decision-making and support the responsible development of the IAC-REE industry as a strategic national resource is also critical.



Science Outlook 2025

The Science Outlook 2025 (SO2025), ASM's flagship study, provides a comprehensive analysis to strengthen the nation's STIE ecosystem. This study, led by Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc, would provide an independent, evidence-based report that evaluates the STIE landscape across federal and state-level ecosystems in Malaysia. It aims to analyse the interconnections within these ecosystems and how they collectively contribute to achieving the nation's vision and mission, with a focus on enhancing Malaysia's overall performance.

The study aims to:

- Evaluate the economic, societal, and environmental performance of the STIE ecosystem at both federal and state levels.
- Identify gaps within the STIE ecosystems that may hinder sustainable development.
- Formulate strategies at the federal and state levels to drive growth across economic, societal, and environmental dimensions by advancing STIE initiatives.

SO2025's approach to understanding and enhancing Malaysia's STIE ecosystem prioritises direct engagement with local stakeholders through Regional Stakeholder Engagements (RSEs). This method ensures that the voices and needs of localities are acknowledged for a comprehensive assessment of their circumstances and challenges. By adopting this bottom-up approach, SO2025 aims to accurately capture each region's current state for effective recommendations to be crafted. This focus on localised participation and tailored strategies sets SO2025 apart, making it a more inclusive and impactful tool for driving sustainable development across Malaysia.

Throughout 2024, RSEs and meetings were conducted involving 152 participants, including representatives from the State Secretary's Office, state government-linked companies (GLCs), various agencies, non-governmental organisations (NGOs), and ASM's Expert Network, fostering a diverse exchange of insights.

Universiti Teknologi Malaysia (UTM) Johor, 13 June 2024

Johor is transitioning its metric of assessing successful projects by measuring the long-term impact rather than focusing only on financial performance. The current interests of the state government include developing a carbon trade policy, the Johor-Singapore Special Economic Zone (JS-SEZ), and retaining high-skilled talent in Johor.



Chairperson of the Science Outlook project, Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc, presenting key points of Science Outlook to participants



YBhg Datuk Ts Dr Ramzah Dambul, CEO of IDS Sabah, gives a welcoming speech to participants at the Sabah RSE, highlighting the collaboration between ASM and IDS Sabah

Institute for Development Studies Sabah (IDS Sabah) Sabah, 8 October 2024

Key insights across economic, societal, and environmental pillars were highlighted. The increase in foreign direct investment from China and Korea, a strong local startup ecosystem, persistent port congestion affecting trade, and public health concerns are linked to economic growth. In addition, the issue of low STEM enrolment at 12.37%, far below the national average of 22.8%, was discussed, signalling an urgent need for educational initiatives. Sabah aims for carbon neutrality by 2050 guided by the Sabah Energy Roadmap and Masterplan 2040.

Sarawak Tropical Peat Research Institute Sarawak, 18 October 2024

Several key changes that are impacting Sarawak include streamlining business licensing, addressing non-fiscal trade barriers like the European Union Deforestation Regulation (EUDR), focusing on the new economy with hydrogen energy and Carbon Capture, Utilisation and Storage (CCUS), and enhancing infrastructure to attract international investors. In terms of economic prosperity which was reported in Post-COVID 19 Development Strategy 2030 (PCDS 2030), Sarawak aims to achieve RM282 billion by 2030, with an average annual growth rate of 8.0%. However, it was highlighted that limited rural infrastructure and access to healthcare are major obstacles to embracing digital transformation.



Professor Ts Dr Shahrina Md Nordin FASc, Deputy Chairperson of SO2025, provides a scene setting presentation on the overview of SO2025 and the current status of the national STIE ecosystem

National Education Reform Study

Issues surrounding education remain a hot debate across various levels and forums, including matters on student achievement, quality of education, educational infrastructure and infostructure, as well as gaps in education policies.

The urgent need for comprehensive national education reform is driven by the evolving demands of post-normal era — a period defined by volatility, uncertainty, complexity, and ambiguity.

In recognition of this, KE commissioned the National Education Reform (NER) study to ASM. The objective is to propose bold, evidence-based reforms that address key challenges of the education sector and develop talent that can thrive amidst the disruptions faced in this era. These recommendations aim to lay the foundation for a forward-looking education system that nurtures future-ready talent and supports Malaysia's broader goals under the 13th Malaysia Plan.

This reform considers the holistic development of talent across the continuum of education, including addressing the cognitive, socio-emotional, resilience, and foundational skills development necessary for talent to adapt to and effectively address changes and challenges.

This study ultimately aims to develop the full potential of every individual—intellectually, emotionally, socially, and creatively, while fostering a sense of moral purpose, values, lifelong learning, and the ability to contribute to a more just, sustainable, advanced and inclusive world.

Goals

1. Learners with core values that are humanity-centric, adaptive, and curiosity-driven embrace innovation, creativity, self-determination, and harmony with mindfulness for mental well-being, diversity, equity and inclusion, and planetary health.
2. Competent workforce to meet present and future demands.
3. Mental health that is prioritised alongside the well-being of educators and learners.
4. Technology-enhanced curriculum design that is innovative and inclusive.
5. Enhanced competitive education ecosystem.
6. Responsive TVET to meet present and future demands.
7. Individual that is highly employable with entrepreneurial and future-ready skills.
8. Global perspectives that strengthen cross-cultural competencies.
9. Empowering individuals to adapt and thrive in a rapidly changing world.
10. Building innovative, resilient, inclusive, equitable societies through accessible education.
11. Efficient governance structure and accountability framework.
12. Cohesive and equitable education policies.
13. Empowered educators with autonomy and accountability.
14. Effective communication, coordination, and consistent policy implementation.
15. Equitable and accessible infrastructure.
16. Systems-thinking approach for structure and funding of education.
17. Adequate education funding for marginalised population and people with disabilities (PWD)

Regional Workshops



Focus Group Discussions (FGD)

FGD with teachers on 26 November 2024 at ASM in conjunction with the National STEM Association's programme on Project STEM 60:40 Way Forward.

From the stakeholder engagements conducted, 11 key gaps and challenges were identified:

1. Inadequate infrastructure and accessibility
2. Limited digital transformation and technology integration
3. Educational workforce & competencies
4. Mental health and well-being
5. Governance, accountability, policy issues & communication strategy
6. Ethics and values among learners and educators
7. Future-ready skills and employability
8. Curriculum challenges
9. Financial sustainability
10. Diversity, equity, inclusivity (DEI)
11. Global engagement & cultural alignment

This study will be evidence-based and involve extensive nationwide stakeholder engagements. Findings from the regional workshops will serve as critical inputs for developing the National Education Reform Framework. By benchmarking against the competency and policy frameworks of 13 countries, as well as internationally recognised standards, this study aims to formulate an inclusive and comprehensive education framework for Malaysia.



Former Deputy Director (Education), Human Capital Development Division, KE, Datin Dr Syahirah Hamidon, delivering her welcoming remarks during the Northern Region workshop



Participants of the National Education Reform Meeting and Workshop



National Planetary Health Action Plan

The National Planetary Health Action Plan (NPHAP) focuses on the interconnectivity of human health and the health of the planet, an approach that naturally complements and supports Malaysia's Sustainable Development Goals (SDGs). ASM was entrusted with developing an integrated NPHAP following a mandate from the NSC. A National Dialogue on Planetary Health: Interconnectivity of Humans, Planet, and Prosperity was organised with key stakeholders on 25 July 2024. The dialogue sought to uncover new ideas and approaches to supplement existing findings.

This engagement brought together approximately 250 key stakeholders from ministries, agencies, industries, academia, and civil society organisations to deliberate and validate proposed action plans. The dialogue aimed to enhance awareness and understanding of NPHAP, secure national-level buy-in, and obtain validation and further input.

The NPHAP concept was approved by NSC on 4 November 2024, with request to carry out further engagements with KE to streamline the governance approach with the SDG Council towards achieving the uptake and implementation of NPHAP to complement Malaysia's SDGs.



53
Strategies



224
Action Plans

SHIFTS

- Strengthening the governance & management of the nation's natural *khazanah*
- Nurturing people to lead a healthy, prosperous and values-driven nation
- Planet-friendly businesses
- Effective communication, behavioural and values mindset
- Sustainable financing & resourcing planetary health development initiatives

4 Key Principles



Humanity-centric



Nature-based



STI-enabled

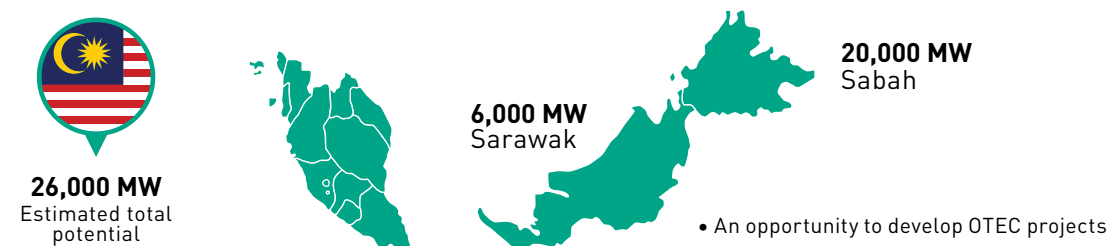


Values-internalised

Ocean Thermal Energy-driven Development for Sustainability

Ocean Thermal Energy Conversion (OTEC) is a renewable energy technology that uses the temperature difference between warm surface water and cold deep-sea water to generate electricity. This study aims to highlight that OTEC technology is a potential future renewable energy source and that, there should be a dedicated agency for the management of OTEC in Malaysia.

STIPAC at its 57th meeting held on 10 August 2023 approved the proposal by the Special Interest Group (SIG) led by Professor Dato' Ir Dr A. Jaafar Bakar FASc to develop a position paper on Ocean Thermal Energy-Driven Development for Sustainability (OTEDDS). The position paper focused on assessing the feasibility of Ocean Thermal Energy Conversion (OTEC) and its potential for Malaysia. The position paper summarised an overview of ocean thermal energy, its associated technologies, and economics as well as discussed existing and future ecosystems that would need to be in place to effectively move Ocean Thermal Energy-Driven Development for Sustainability as a national agenda.



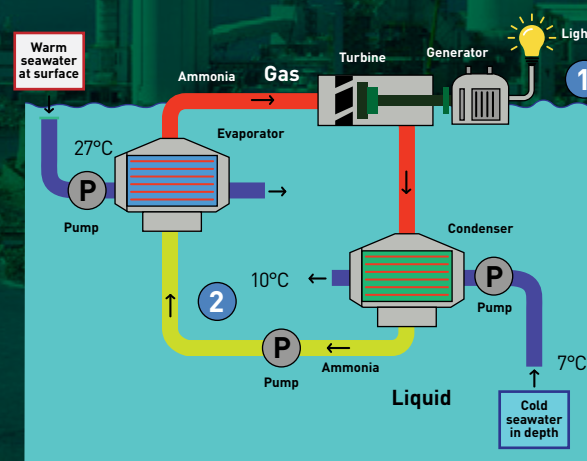
There are two streams of revenue from OTEC:

- 1) Electricity, or its conversion into green hydrogen, along with its by-products, can be leveraged by utilising the cold deep-sea water discharged from OTEC plant condensers for various applications. These include district cooling for data centres, high-value marine aquaculture, temperate crop cultivation, lithium extraction, and mineral water production; and
- 2) The production of electricity could be reduced from USD 0.15/kWh to USD 0.05/kWh; thus, the production of green hydrogen could be lowered from USD 8/kg to USD 3/kg.

Sabah has the highest potential for OTEC in Malaysia, with an estimated capacity of 20,000 megawatts. This energy can be used for electricity, desalinating water, and producing green hydrogen through electrolysis. The Sabah State Legislative Assembly approved the OTEC Bill 2024 on 25 April 2024. This bill paves the way for the development of OTEC as a new renewable energy source and a key initiative under the Blue Economy. Feasibility studies on OTEC are currently being conducted by three companies and are expected to be completed within two years. In Port Dickson, Negeri Sembilan, the Hybrid OTEC R&D laboratory was successfully tested and commissioned on 12 October 2024.

Proposed Recommendations:

- 1 Acknowledge OTEC as a feasible energy source
- 2 Address legislative gaps and required interventions
- 3 Establish a dedicated agency, Ocean Thermal Energy National Berhad (OTENAS)
- 4 Enhance incentives for OTEC Development
- 5 Outline governance framework and stakeholder collaboration



Malaysia Blue Economy Blueprint

ASM with KE identified blue economy as a new economic sector that has the potential to be developed under the 13th Malaysia Plan. Based on the 2021 published Position Paper on Blue Economy: Unlocking the Value of the Oceans by ASM, a set of recommendations were put forth for approval at the NSC meeting held on 14 May 2024. The paper was approved, with KE to lead the initiative.

KE entrusted ASM with leading the development of the Malaysia Blue Economy Blueprint (MBEB) under the leadership of Emeritus Professor Dr Phang Siew Moi FASc and Professor Mahendhiran Sanggaran Nair FASc. MBEB aims to unlock the sustainable value of Malaysia's ocean resources, recognising the critical role of the Blue Economy in advancing national development. Currently, the marine-based economy contributes approximately 23% to Malaysia's GDP. With an extensive coastline spanning over 4,675 kilometers and a maritime area more than twice the size of its landmass, Malaysia is well-positioned to harness its vast ocean resources for economic growth. By enhancing productivity, the contribution of marine resources is projected to increase from 22.0% in 2020 to 31.5% of GDP by 2030, potentially generating a cumulative net gain of approximately RM1.4 trillion (a cumulative net gain from 2020 to 2030).

Malaysia's blue economy will diversify into resilient and sustainable industries, improving Return on Value (ROV) while minimising ecological impacts, positioning the nation as a global leader in sustainable ocean-based industries and attracting foreign investments.

8 Strategic Sectors



Fisheries & Aquaculture



Waste Disposal Management



Coastal and Maritime Tourism



Marine Biotechnology & Bio-Propecting



Extractive Industries of Non-living Resources



Maritime Transport, Ports & related services, Shipping and Shipbuilding



Renewable Energy



Desalination for Freshwater Generation

2 Cross-Cutting Sectors

Ocean Ecosystem Services & Health

Governance & Policy

Quantum Technology

Quantum technology is poised to strengthen Malaysia's cybersecurity, accelerate advancements in AI and biotechnology for drug discovery and precision medicine, and enhance efficiency in industrial and financial sectors amongst others. These initiatives are supported by workforce training programmes and incentives designed to attract global startups, positioning Malaysia as a regional leader and the ASEAN quantum hub by 2035. This vision aligns with the National Science, Technology & Innovation Policy (2021-2030) and the national target of developing 60,000 high-skilled engineers by 2030.

A position paper by ASM on Quantum Technology is set to propose a constructive framework centred around readily achievable opportunities to yield immediate benefits and pave the way for more substantial, medium and long-term gains of quantum development and ecosystem in Malaysia.

The study aims to:

- 1) Nurture local talent in the field of quantum technology.
- 2) Identify high-priority research agendas in quantum technology through active engagement and input from multiple stakeholders.
- 3) Offer evidence-based policy recommendations for governing quantum technology and fostering collaborative partnerships between central agencies, other governmental bodies, academia and industry players.

Malaysia's future plans for quantum technology focuses on building a strong and sustainable ecosystem to support long-term growth. A key step is setting up Centres of Excellence (CoEs) for quantum research and innovation. These centres will bring together experts from universities, industries, and government to collaborate and develop talent with the goal to advance areas like quantum computing, cryptography, and sensing, and position Malaysia as a regional leader in quantum technology.

There is also a need for a national quantum policy that aligns with Malaysia's broader goals for industrial and digital transformation. This policy will help set clear priorities, guide government support and investments, and create incentives for businesses to adopt quantum technologies. It will also include regulations to support the growth of a quantum-based economy.

To build local expertise, Malaysia plans to integrate quantum education into school and university programmes. New degree courses will combine quantum science with computer science, engineering, and cybersecurity. In addition, micro-credentials and professional certifications will help current professionals upskill for jobs in the quantum sector.

Finally, international partnerships will play a key role in Malaysia's quantum technology journey. By working with global leaders in quantum research, Malaysia can gain valuable knowledge, build strong networks, and take part in international initiatives. These efforts will help the country become an active player in the global quantum landscape.

Dr Ranjeet Bhagwan Singh Medical Research Trust Fund Programme

The Dr Ranjeet Bhagwan Singh (RBS) Medical Research Trust Fund programme is a testament to the enduring legacy of one of Malaysia's most prominent medical research scientists and philanthropists who has made many invaluable contributions to the field of medical and scientific research, specifically in the development of diagnostic laboratories in Malaysia.

This Trust Fund Programme champions medical innovation through a prestigious research grant and an inspiring memorial lecture, honouring Dr Ranjeet Bhagwan Singh's legacy in advancing medical research.

The RBS Medical Research Grant aims to support young Malaysian scientists with funding and mentorship for impactful biomedical research. Dr Muhammad Farid Nazer Muhammad Faruqu from Universiti Malaya received RM50,000 for his groundbreaking research titled 'Investigating EV bodies – Bioengineered Extracellular Vesicles (EVs) as Nano-Neutralising Agents Against EGF in Attenuating EGFR-driven Lung Cancer'. His research holds the potential to improve healthcare outcomes and reduce the disease burden in Malaysia.

The Memorial Lecture, then, featured Professor Kehkooi Kee, Vice Chancellor (International) at Tsinghua University, who presented "Revolutionising Health: The Impact of Stem Cells on Basic Research and Medicine", highlighting the transformative role of stem cells in medicine and their potential for addressing complex medical challenges. The memorial lecture was attended by representatives from ministries, public and private higher education institutions, and medical agencies along with over 1,800 online viewers.

1997-2024:



The RBS Research Grant has enabled innovation and accelerated the discovery of new knowledge, paving the way for breakthroughs such as vaccine development, cancer research, disease prevention and public health initiatives, contributing to the nation's clinical research development.



Presentation by RBS 2024 grant recipient, Dr Muhammad Farid Nazer, and grant handover by MOSTI Minister, YB Tuan Chang Lih Kang

ASM - Korean Academy of Science and Technology Bilateral Symposium & Memorandum of Understanding

ASM, in collaboration with the KAST, successfully organised the ASM-KAST Bilateral Symposium on 22 January 2024, with three sessions covering food and life sciences, medical sciences, and engineering. This underscores the fruitful exchange of scientific expertise between Malaysia and Korea, paving the way for future collaborations and discussions.

The event concluded with a supplementary MoU signing between President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc, and KAST President, Professor Ook Joon Yoo, witnessed by scientific fraternities from both academies.

This collaborative effort reinforced our commitment to exchange of information, knowledge, and expertise in STIE between the two countries. Notably, this agreement extends and strengthens the partnership initiated by the original MoU signed on 11 February 1999. The ongoing collaboration remains dedicated to promoting scientific and technological cooperation through diverse means, marking a significant milestone in both academy's shared pursuit of advancement and innovation.



KAST President delivering a presentation on KAST, followed by an MoU signing ceremony between ASM and KAST

ASM - Chinese Academy of Sciences Memorandum of Understanding

ASM signed an MoU with the CAS on 9 December 2024, a partnership that began in 1999 through a Memorandum of Scientific, Engineering, and Technological Cooperation. The signing occurred between the President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc and the Vice President of CAS, Professor Hongping He.

With this renewed commitment, ASM and CAS are elevating our shared vision by focusing on emerging and impactful fields such as neurotechnology, artificial intelligence (AI), agriculture, and renewable energy. A key highlight of the renewed MoU is the exchange of scientists between the two nations, fostering deeper collaboration and knowledge sharing. This initiative also supports the MoU between the governments of Malaysia and China, which established the Malaysia-China Science and Technology People-to-People Exchange Programme 2025.



MoU signing ceremony between ASM and CAS, witnessed by the Minister of MOSTI

Tropical Sciences 2024

The 2nd International Conference on Tropical Sciences 2024 (TropSc™2024), themed 'Harmonising Humanity with Nature', was organised on 16 and 17 October 2024 in Kuching, Sarawak. The Tropical Science Foundation (TSF) hosted the conference in collaboration with ASM as the co-organiser, alongside Universiti Malaysia Sarawak (UNIMAS), with support from the Sarawak Government. The event was officiated by the Premier of Sarawak, Datuk Patinggi Tan Sri (Dr) Abang Haji Abdul Rahman Zohari Tun Datuk Abang Haji Openg.

Themes:



Tropical
Agriculture



Tropical Architecture
and Engineering



Tropical
Medicine



Tropical
Natural Resources

Special Themes:



Climate Change
in the Tropics



Open Science in
Tropical Biodiversity



Protection of Indigenous and
Local Knowledge in the Tropics

20

Countries

321

Physical
attendees

4

Strategic
partnerships

18

Sessions

The TropSc™2024 was based on a robust agenda, with the main objective of planting seeds for an Alliance for the Tropics, a collaborative network aimed at addressing the region's unique challenges and opportunities. The conference culminated in the 'Kuching Declaration for the Tropics' led by the Executive Director of TSF, Academician Emerita Professor Tan Sri Dato' Seri Dr Mazlan Othman FASc, emphasising tropical regions' significance and challenges. It also calls for the involvement of multiple stakeholders, including governments, NGOs, academia, and local communities, to work together for the future of the Tropics.

TropSc™2024 provided a platform to recognise individuals who demonstrated exceptional research, innovation, and impactful communication within their respective fields.

Best Oral Presenters:

Tropical Agriculture

Nicodemus Ujih (Sarawak Tropical Peat Research Institute, Malaysia)

Tropical Architecture & Engineering

Dr Bridgid Chin Lai Fui (Curtain University, Malaysia)

Tropical Medicine

Dr Eugenie Tan (UCSI University, Malaysia)

Tropical Natural Resources

Siew Te Wong (Bornean Sun Bear Conservation Centre, Sabah, Malaysia)

Climate Change in the Tropics

Mike Espenberg (University of Tartu, Estonia)

Open Science in Tropical Biodiversity

Dr Nurzatil Sharleeza Mat Jalaluddin (Universiti Malaya)

Best Poster Presentation:

Floristic Composition of Maludam Peat Swamp Forest, Sarawak, Malaysia

Lijan John Anak Ahmui
(Sarawak Tropical Peat Research Institute, Malaysia)



Snapshots of the 2nd TropSc 2024 Conference



Leading up to this conference, a series of webinars were hosted, providing effective platforms for dialogue and knowledge exchange, reinforcing our commitment to addressing challenges and opportunities of the Tropics.

World Engineering Day

4 March 2024

Engineering for a Greener Tomorrow

International Day of Forests

21 March 2024

Forest Issues of the Tropics

World Health Day

4 April 2024

Empowering Voices: Advocating for Health Rights

International Day of Biodiversity

20 May 2024

From Agreement to Action: Build Back Biodiversity

International Day for the Conservation of the Mangroves Ecosystem

26 July 2024

Mangroves: Guardians of Our Coasts

International Youth Day

29 August 2024

Youth Digital Pathways for Sustainable Development

International Day for World's Indigenous People

5 September 2024

Protecting the Rights of Indigenous Peoples in Voluntary Isolation and Initial Contact

International Mountain Day

11 December 2024

Mountain Solutions for a Sustainable Future – Innovation, Adaptation, Youth, and Beyond

"We are dedicated to fostering research, embracing innovation, and supporting community-led conservation initiatives to ensure these ecosystems thrive for future generations. On behalf of the Sarawak government, I want to reaffirm our steadfast commitment to conserving and sustainably managing our tropical treasures."

The Right Honourable Datuk Patinggi Tan Sri (Dr) Abang Haji Abdul Rahman Zohari Tun Datuk Abang Haji Openg,
Sarawak Premier



Scan here to read the full report

ASEAN Ahead

In an era of post-normal times marked by chaos, complexity and contradictions, we face a new reality and a compelling journey with twists and turns. The Association of Southeast Asian Nations (ASEAN) must be positioned as a global powerhouse to stay ahead of the curve and this calls for collective action of all ASEAN Member States (AMS).

In 2019, the ASEAN Foresight Alliance (AFA) was created to connect ASEAN and global foresight initiatives. Following this, ASM produced the 'ASEAN Ahead: ASEAN STI Ecosystem Foresight 2035 and Beyond' report, focusing on future STI trends in the ASEAN region. The central idea is that ASEAN nations must unite and collaborate collectively in addressing these trends to reap the mutual benefit of the entire community.

The report presents four plausible future scenarios. This foresight exercise was proactively conducted and funded by ASM to provide valuable insights and a call to action in navigating ASEAN's future toward 2050 premised on STIE. It explores and suggests solutions to support the development of an inclusive, dynamic, resilient and sustainable ASEAN community, drawing on the expertise of numerous stakeholders across AMS. Through this foresighting exercise, every AMS will be able to strengthen their strategic positioning regionally and globally.



Presentation on ASEAN AHEAD: ASEAN STI Ecosystem Foresight 2035 and Beyond by Academician Professor Emerita Tan Sri Datuk Sri Dr Mazlan Othman FASc at the 85th ASEAN COSTI Meeting (COSTI-85)



10 Board of Advisors,
ASEAN Foresight Alliance



10 ASEAN Foresight Research
Cohort Members



43 ministries and institutions engaged
in national plans and initiatives



8 focus group
discussion involving



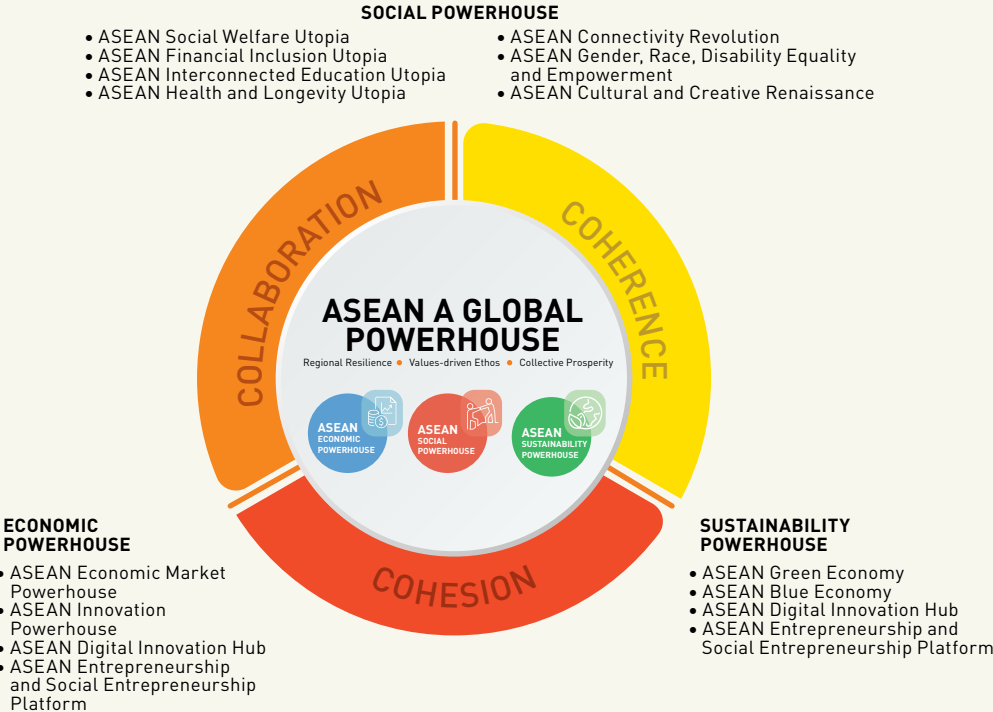
8 ASEAN
Member States



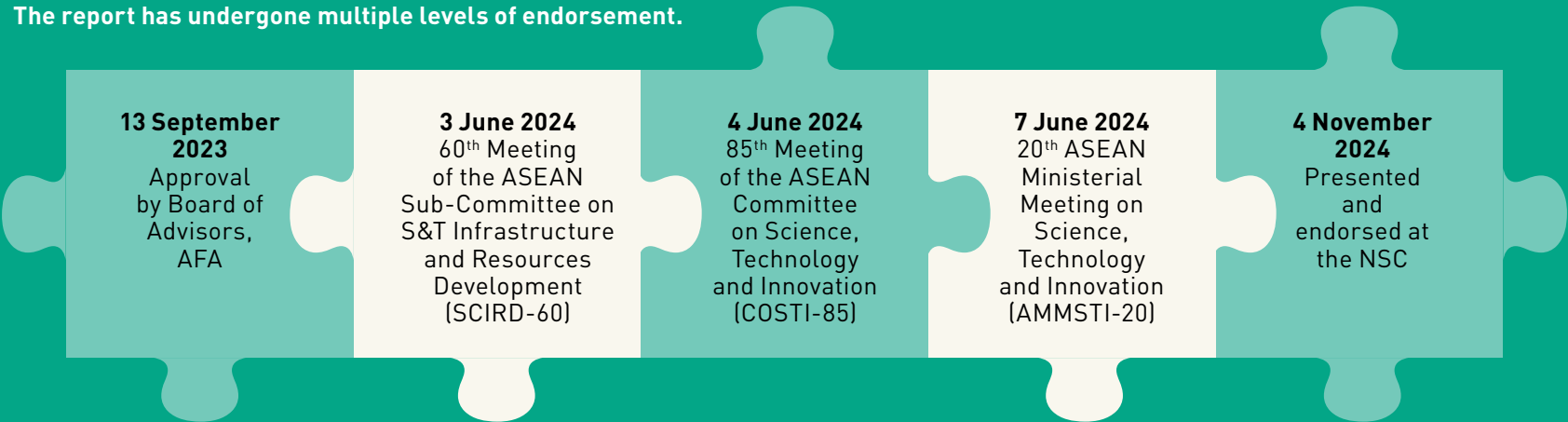
102 representatives engaged
throughout the study

In developing this report, ASEAN STIE ecosystems, their interactions with global Forces of Change, and their impact were analysed through the Triple 10 Framework. As a result, the report highlights the socioeconomic sectors' wealth creation within the economy driven by STIE and the importance of leveraging these forces in navigating the future of ASEAN. The National Science Council (NSC) gave the green light to the ASEAN Ahead initiative.

As a global powerhouse, ASEAN aspires to achieve collective prosperity by 2050 which hinges on STIE-enabled regional resilience and a values-driven ethos, promoting collective prosperity through cooperation, coherence, and cohesion amidst transboundary challenges. Cooperation entails collaborative efforts among member states, coherence stresses the need for consistent policies and actions, and cohesion underscores unity and solidarity. By coming together as a region, a prosperous, thriving, and resilient ASEAN in 2025 and beyond is well within our reach.



The report has undergone multiple levels of endorsement.



APEC Open Science Alliance

Building on the success of Malaysia Open Science Alliance (MOSA) that was formed to spearhead national open science agenda, Malaysia proposed the concept of APECOSA at the Asia Pacific Economic Cooperation (APEC) 2023 in the United States coinciding with the year of open science. The vision of APECOSA is to enable APEC economies to share and tap into digital technologies to find solutions for regional and global challenges towards inclusive and sustainable development, promote responsible conduct of research (transparency and avoiding unnecessary duplication of research), and remove barriers to the free flow of knowledge by enabling preservation, accessibility and reusability of data.

With this vision in mind, ASM, in partnership with the International Science Council (ISC), organised two APECOSA workshops, one virtually on 20 June 2024 and a physical workshop in Lima, Peru, during the 24th Policy Partnership on Science, Technology and Innovation (PPSTI) meeting on 18 August 2024. The project overseer of APECOSA, Professor Dr Noorsaadah Abd Rahman FASc presented and moderated the workshops, respectively.

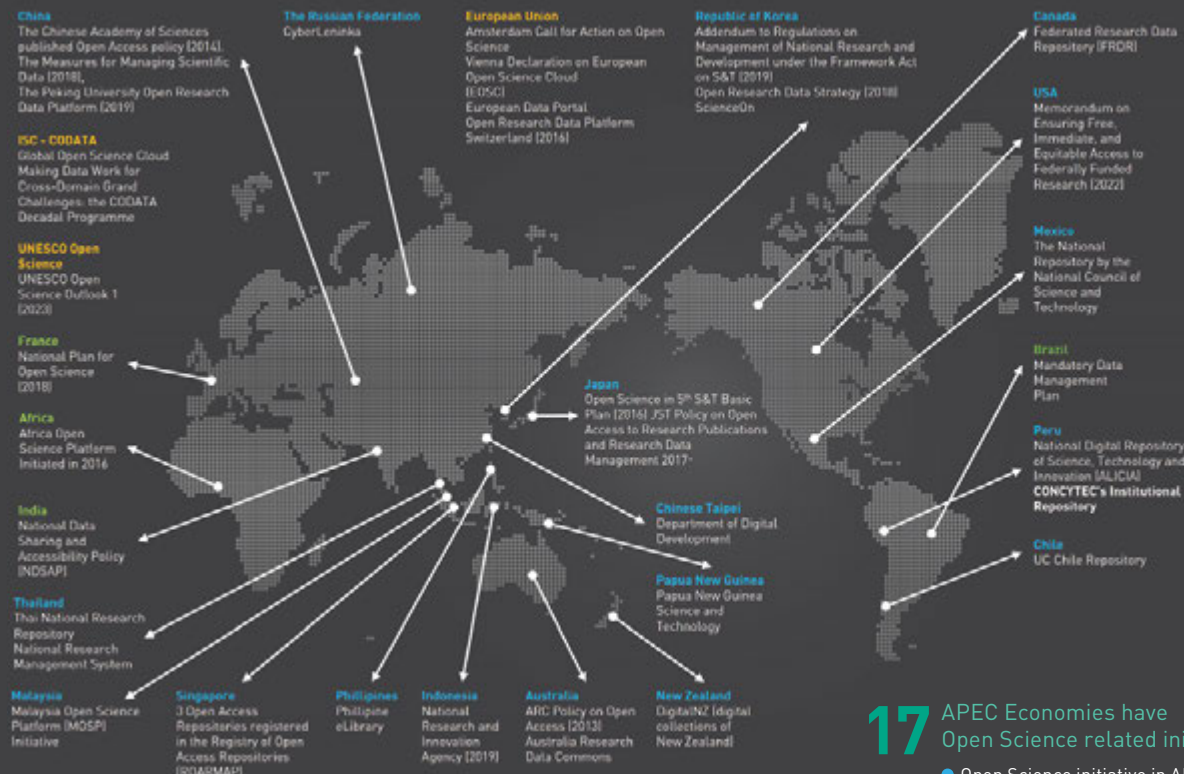
The virtual and physical workshops involved,

16 speakers and moderators

76 participants

19 APEC economies

3 non-APEC economies



17 APEC Economies have Open Science related initiatives

- Open Science initiative in APEC Economies
- Open Science initiative in non-APEC economies
- Open Science initiative by global institution/regions

*List is non-exhaustive

APEC economies have varied levels of open science initiatives and activities. In order to propel open science, it was agreed that these focus areas will be prioritised:

- **Policy and Guidelines** to facilitate the implementation of open science practices in the economy, funding distribution to support open science and ensuring researchers make their research, especially publicly funded projects, available for the public.
- **Capacity Building** of research stakeholders such as researchers, librarians, government officials, law officers, and research supporting officers to ensure a seamless transition towards open science.
- **Research Data Management** practices, which include standardised metadata and the development of a research data management plan.
- **Infrastructure and Infostructure**, which supports data sharing to enhance availability and accessibility to scientific knowledge and enables international and multidisciplinary collaboration.

Ultimately, APECOSA is an important avenue for APEC economies to share best practices on open science to drive open science for the advancement of STI in this region. The presentation on APECOSA outlined the alliance's strategic path forward, proposing the establishment of formal contact with open science focal points from each APEC economy. The goal is to officially form the alliance by 2026, with a pilot project leveraging the alliance set for 2027.



Professor Dr Noorsaadah Abd Rahman FASc at the APECOSA workshop during the 24th PPSTI Meeting in Lima, Peru



ASM CEO presenting a scene-setting at the PPSTI Workshop on Landscape Study and Benchmarking for the APEC Open Science Alliance



APECOSA workshop participants



Scan here to read the full report

Science Academies of Asia Forum

Following the renewal of MoU between ASM and KAST, as well as the 2024 ASM-KAST Bilateral Symposium organised on 22 January 2024, ASM President was invited by KAST to join the Science Academies of Asia Forum (SAAF) 2024 in Seoul from 19-22 November 2024. The trip also included industrial visits to the Samsung Innovation Museum and Pangyo Techno Valley. SAAF 2024 discussed the theme of the “Advancement of Science and Technology in Asia”. Presidents and representatives from a total of 10 science academies, including Association of Societies of Sciences in Asia (AASSA), participated and shared their experiences and facilitated discussions on advancing science and technology in Asia to foster sustainable growth and shared prosperity.

At the end of the forum, a Joint Declaration for the Advancement of Science and Technology in Asia was signed by AASSA, KAST, ASM, Indonesia Academy of Sciences, Science Council of Japan, Nepal Academy of Science and Technology, Pakistan Academy of Science, Science Council of Asia, National Academy of Science and Technology of the Philippines, Turkish Academy of Sciences and the Academy of Sciences of the Republic of Uzbekistan. This joint declaration unanimously recognised the need to enhance the research and development budget in Asia, expand science and technology education programmes, modernise scientific research infrastructure, and actively support joint research initiatives and educational collaboration among scientists in the region.

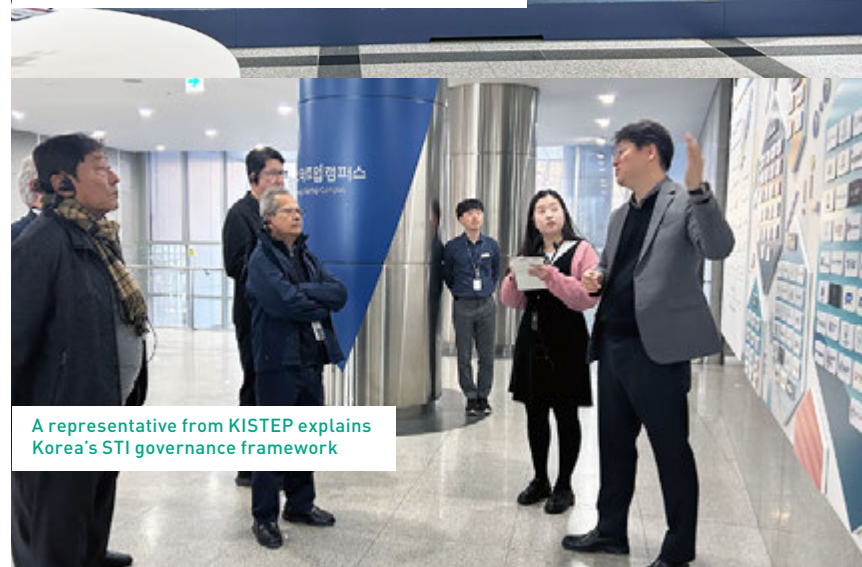
During the travel to Seoul, the President also took the opportunity to pay courtesy visits to the Korea Institute of S&T Evaluation and Planning (KISTEP), Ministry of Science and ICT (MSIT) to gain insights into the Korean STI governance as well as the STI policies that catalyse and strengthen the Korean STI ecosystem and development.



KAST President during his speech at the Science Academies of Asia Forum



Group photo with Members of the Joint Declaration for the Advancement of Science and Technology in Asia



A representative from KISTEP explains Korea's STI governance framework

ASM - Academy of Medical Sciences UK Diagnostics & Therapeutics

Demographic shifts in Southeast Asia have increased the demand for diagnostics and pharmaceuticals, highlighting the need for improved access and affordability. Diagnostics and treatment access inequalities, especially in rural areas, pose significant challenges to achieving universal health coverage.

To address these issues, ASM and the Academy of Medical Sciences UK (AMS) held a Diagnostics and Therapeutics Workshop from 1 to 2 July 2024 to advance the development and accessibility of diagnostics and therapeutics across SEA, with Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc as the Co-Chair of the Steering Committee.

The workshop unfolded over two days, aimed at addressing the pressing healthcare disparities in Southeast Asia. Bringing together participants from diverse backgrounds, the event featured insightful discussions and expert contributions. Day one set the stage with compelling keynote presentations from esteemed speakers, followed by a thought-provoking expert panel discussion. On day two, local and international experts shared impactful case studies, which led to collaborative group presentations.

The event concluded with a plenary session where key action items were identified, including fostering collaboration across Southeast Asia by engaging governments and policymakers, developing an adaptive ASEAN-based regulatory platform for diagnostics and therapeutics, and reforming education to better equip researchers with a deeper understanding of the healthcare ecosystem. The adoption of new technologies, such as digital health tools, telemedicine, and AI, was highlighted as essential for enhancing healthcare delivery. Additionally, strategies to ensure local ecosystem preparedness were emphasised. These efforts are hoped to empower participants to drive meaningful change within their respective countries and institutions.

The workshop involved:



60
prominent figures
and experts



10
countries

“Contrary to what normal science seeks, emergent behaviour is unpredictable. Digital twins of health systems may be what we are looking for in finding safe and optimum operating environments. We can only hope that the health systems that we create will promote healthy living and useful lives.”

ASM President, Academician Datuk Dr
Tengku Mohd Azzman Shariffadeen FASc



Highlights from the ASM - AMS UK Workshop on Diagnostics and Therapeutics



Scan here to read
the full report

CERN Summer Student Programme

ASM also spearheaded a collaborative project with the European Organisation for Nuclear Research (CERN), initiating a scientific exchange and collaboration programme involving scientists to enhance excellence in STI.

Two exceptional Malaysian students, Nurul Nabillah Sulaiman, 25, and Shim Zi Jun, 23, were selected to participate in the 2024 CERN Summer Student Programme (CSSP) in Geneva, Switzerland. They were among 150 young scientists from around the globe who have been offered an unparalleled opportunity to actively participate in the day-to-day operations of research teams conducting experiments at CERN. The programme was held from 1 July until 25 August 2024.

On 11 September 2024, the students had a sharing session with the Minister of MOSTI where he learned that the programme not only stimulated students' interest in science, physics, computing, and engineering, but also provided them with valuable exposure and networking opportunities with global researchers. He affirmed the government's commitment to continuing and expanding student participation in prestigious international programmes like CSSP, as part of a broader effort to position more Malaysian students and talents on the global research stage.



Shim Zi Jun had the opportunity to observe firsthand one of the experiments in progress

Lindau Nobel Laureate Meetings

Held in Lindau, Germany, the annual Lindau Nobel Laureate Meetings are a prestigious forum where Nobel Laureates and young scientists worldwide gather to exchange knowledge, ideas, and experiences. These meetings provide a unique opportunity for young researchers to engage with distinguished scientists.

ASM as the Nominating Institutions since 2004, selected promising young Malaysian scientists to involve in this diverse and high-calibre assembly. To date, 86 Malaysian young scientists have been selected to attend this annual meeting.

Representatives from Malaysia, Nur Alia Sheh Omar, 33 and Tang Jia Heak, 21 shared their inspiring journeys and insights into their research during the meeting from 30 June to 5 July 2024, showcasing their potentials in shaping the future of science globally. They were joined by a cohort of more than 600 outstanding young scientists from over 90 nations to engage and interact with 30 Nobel Laureates.

This programme is aimed to have a lasting positive impact on the participants, where they can address critical issues and improve communities' quality through scientific and technological advancements.



Nur Alia Sheh Omar (far right) with participants of the Lindau Nobel Laureate Meeting



Scan to listen
to the podcast

International Science, Technology, and Innovation Centre

The International Science, Technology, and Innovation Centre for South-South Cooperation under the auspices of UNESCO (ISTIC) is a UNESCO Category 2 Centre hosted by the Government of Malaysia since 2008.

One of the standout events was the International Symposium of UNESCO Category 2 Centres in Natural Sciences, held in May 2024 in Kuala Lumpur. This gathering brought together over 70 representatives from UNESCO Category 2 Centres worldwide. With a focus on strengthening coordination and advancing the SDGs, the symposium provided a dynamic platform for dialogue, reflection, and collaboration. Participants discussed ways to streamline efforts and shared best practices to enhance the collective impact of the centres. The event underscored the pivotal role of STI in addressing complex global issues, such as climate change, resource management, and capacity building in underserved regions.

ISTIC also launched flagship programmes designed to address specific STI challenges faced by developing countries. The KISTEP-ISTIC STI Innovation Training (July 2024, Malaysia) empowered participants with innovative tools and frameworks to tackle the commercialisation of science and technology. Similarly, the International Training Programme on STI Policy (September 2024, Malaysia) offered a deep dive into strategies for integrating STI into national development agendas. Through hands-on activities, scenario-building exercises, and in-depth discussions, participants were equipped to navigate the intersection of STI and socio-economic development with confidence and clarity.

Recognising the need for regional capacity building, ISTIC extended its reach through the East Africa Workshop (April 2024, Kenya) and the Southern Africa Workshop (July 2024, South Africa), providing practical training in research proposal writing and transdisciplinary collaboration. Meanwhile, the AI Education Workshop (November 2024, Malaysia) broke new ground by introducing educators to AI concepts and practical teaching methodologies. The workshop helped prepare future generations to thrive in an increasingly digital and automated world by aligning education systems with industry demands.

ISTIC is committed to further strengthen the role of STI within the Global South. By continuing to collaborate with global and regional partners, ISTIC will expand its efforts to address emerging priorities and ensure that no nation is left behind in the journey toward a sustainable and inclusive future.



Participants and organisers from ISTIC, NRF, and FEAHLC at the Southern African Regional Workshop on Mastering Research Proposal Writing in South Africa



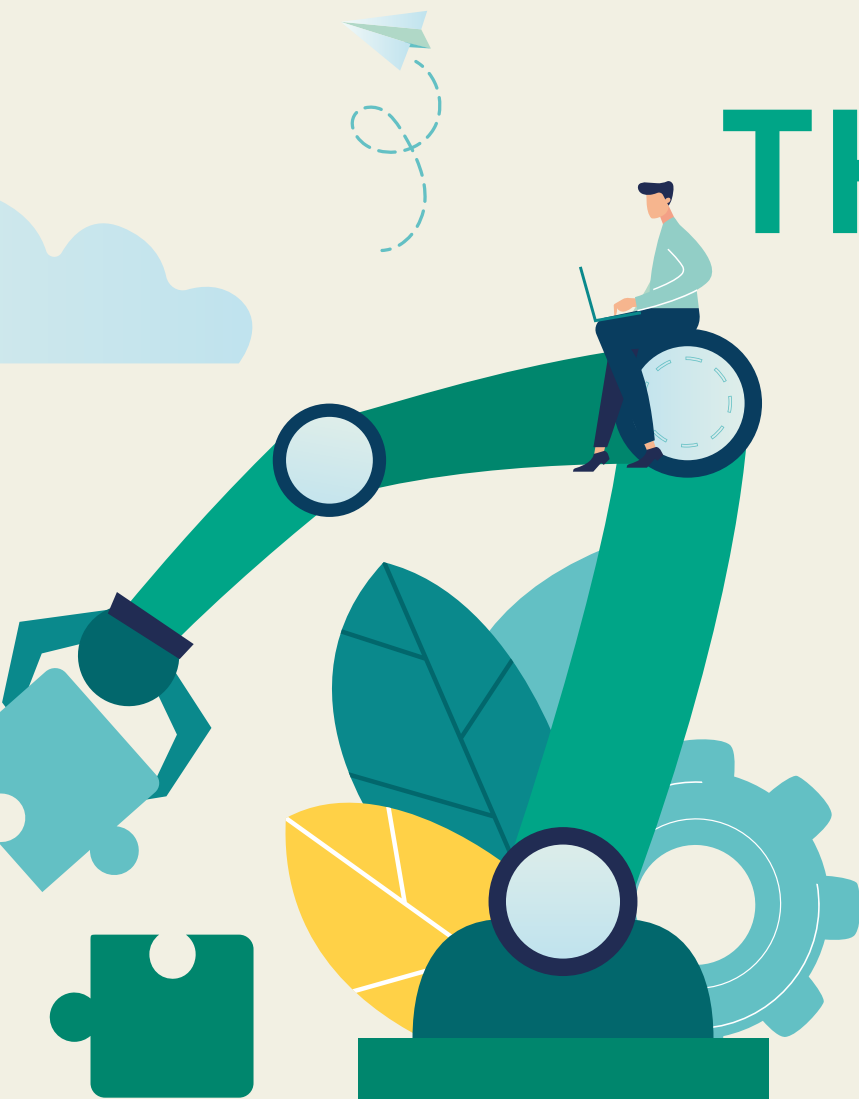
Minister of MOSTI with the Assistant Director-General for Natural Sciences UNESCO, Madam Lidia Brito, and the Chairperson of the ISTIC Governing Board, Professor Basyarudin Abdul Rahman, at the UNESCO C2C Symposium



Participants during the 2024 KISTEP-ISTIC S&T Innovation Training Programme for High-Level Policy Makers



SHAPING TOMORROW THROUGH NEW FRONTIERS & INNOVATIVE SOLUTIONS

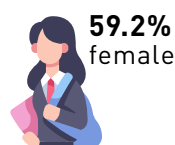
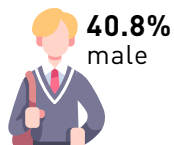


National Science Challenge

For two consecutive years, the National Science Challenge (NSC) attracted participation from over **9,000 teams** comprising nearly **30,000 students nationwide**, demonstrating our youths' interest and potential in STEM. In 2024, NSC was participated by:

29,067
students

9,689
groups



670
Schools



522
urban
schools
(77.9%)



148
rural
schools
(22.1%)

The theme, 'Driving the Era of Digital Transformation: Pioneering Innovation and Sustainable Solutions,' was chosen to raise awareness of the importance of digital transformation in alignment with human values. The competition also saw the revival of a physical STEM Camp for the Semi Finals, which facilitated direct interaction between students and scientists, highlighting mentorship, hands-on learning opportunities, real-world applications of science, and exposure to university life.



The 2024 NSC has shown significant impacts, particularly in the context of STI talent development in Malaysia.

1. Supporting the National Education Goals

NSC works in tandem with the national agenda to increase the number of students choosing STEM, which aligns with the nation's need to prepare a balanced and harmonious generation in intellect, spiritual, emotional, and physical aspects.

2. Developing Future-Proof Talent

An opportunity for students to develop problem-solving skills, communication, and collaboration as well as critical and creative thinking. Students also developed analytical and leadership qualities.

3. Creating Young Leaders and Scientists

Students were given the experience to pitch innovative ideas and interact with experts and facilitators from various scientific fields as well as fellow students from across the country.

4. Fostering International Exposure

This initiative provided exposure to selected winners to experience STEM innovation and culture through the Sakura Science Exchange Programme in Japan.

"Reinforcing formal learning through informal activities such as the NSC competition is an important method to cultivate students' deep interest in STEM subjects."

Minister of MOSTI,
YB Tuan Chang Lih Kang



National Science Challenge 2024 winner, Benedict Lau Shu Xian, Chua Poh Hui dan Parousia Kong Chii Kai from Sekolah Menengah Swasta St. Joseph, Sarawak



Champion: Sekolah Menengah Swasta St. Joseph, Sarawak



2nd Place: MRSM Langkawi, Kedah



3rd place: SMK Sultan Ismail, Johor



4th place: MRSM Gerik, Perak



5th place: SMK Jit Sin, Pulau Pinang

2024 New Recognitions:

Highest School Participation:

Jabatan Pendidikan Negeri Selangor

Highest Rural School Participation:

Jabatan Pendidikan Negeri Sabah

Preliminary Level STEM Quiz Best Student:

Joanne Lim Yii Jun, SMK Bintulu, Sarawak

Best STEM Communicator:

Chuah Yee Jia, SMK Sultan Ismail, Johor



Scan here
to watch the
Grand Final
highlights

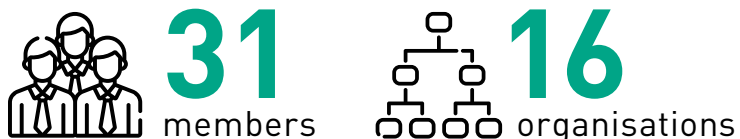
Precision Biodiversity

As the 12th mega-biodiverse country, Malaysia is committed to protect the planet and ensuring socio-economic returns effectively through the Precision Biodiversity (PBD) Strategic Paper recommendations.

The Programme on Digitalisation and Internet of Things for Biodiversity is the development of a pilot project in the Pasoh Forest Reserve, anchored by ASM in collaboration with the technical team from UTM and Universiti Putra Malaysia (UPM) along with the Forest Research Institute Malaysia (FRIM). The aim of the project is to develop a system for the digitalisation of biodiversity with application of IoT for monitoring of Malaysia's biodiversity. The ultimate aim is to replicate the system in other forest reserves throughout the country.

The inaugural PBD Alliance Meeting was held on 14 February 2024 at ASM. The objectives of the PBD Alliance meeting is to advance the development of PBD and to promote accelerate the adoption of cutting-edge technologies in Malaysia. The meeting provided a platform to showcase project progress and included insightful sharing sessions from Alliance members.

As of now, the PBD Alliance comprises:



This year, an MoU with FRIM, one of ASM's key stakeholders, was signed successfully. This collaboration facilitated the official exchange and sharing of critical data, enabling the digitisation and tabulation of valuable information for future use within the project. Additionally, a dedicated webpage to streamline researchers' and officers' daily work was developed along with a mobile application to facilitate data collection for ease of data identification. The applications' system testing is completed.



Camera traps record the presence of animals to be classified using AI technology in the Pasoh Forest



Drone in operation to record real-time images of the Pasoh Forest canopy



Chairperson of the PBD Alliance, Dr Helen Nair FASc, leading the PBD Alliance Meeting

Activities

- **Ecological Simulator Workshops with FRIM**
30 April, 11 & 12 June, 21 & 22 November 2024

- **Data Synchronisation Workshop**
12 September 2024

These efforts strategically planned technical aspects of the project, refined stakeholder inputs and validated findings to enhance technical direction and foster collaboration among stakeholders.

- **FRIM Research Station (SPF), Pasoh Reserve Forest**
26 September & 11 November 2024

These visits were organised to identify optimal locations for IoT sensor installations and oversee the setup process, which marked a significant milestone in advancing the implementation of IoT-based monitoring for PBD. Installations of the IoT sensors will be completed by 2025.

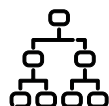
A comprehensive three-phase programme was conducted, comprising Foundation, Development, and Adoption Training.

The development training phase for this year focused on equipping participants with technical knowledge and skills relevant to the project. Delivered in collaboration with UTM and UPM technical teams, these sessions ensured high-quality instruction and knowledge transfer, strengthening capacity-building among stakeholders.



11

training modules



14

organisations



89

participants



FRIM botanists explaining herbarium specimen classification methods to members of the PBD technical group

Digitalisation progress

By the end of 2024,



2,800

insect specimens
across 3 genus
(*Papilio*,
Orientopsaltria,
Chremistica)



6,000

herbarium
specimens
across 2 families
(*Burseraceae*,
Dipterocarpaceae)



4,000

camera trap images
with 39 species of
vertebrates
identified from
these images.

Significant progress was achieved as the AI model was developed and the IoT system has begun installation. With key infrastructure in place, 2025 will mark the next phase, where robots and drones will begin collecting new data to enhance system intelligence. The ecological simulator will be operational, providing valuable insights for biodiversity management, and new applications will further strengthen its impact. Moving forward, continuous refinement and integration of advanced technologies will drive innovation, ensuring a more effective and sustainable approach to ecological conservation in Malaysia.

Wireless Bridging System

The Wireless Bridging System (WBS) initiated by ASM, is another innovation that expands internet connectivity to underserved and unserved communities, especially for teaching and learning (PdPR) and e-entrepreneurship activities. It complements the government's efforts to reduce the digital divide in rural areas through technologies that leverage existing resources to expand coverage and access speed.

Following the proof of concept (PoC) in Kuala Pajam, Selangor, the WBS system was installed at Sekolah Kebangsaan Simbuan Tulid in Keningau, Sabah, under the Ekonomi MADANI: Inisiatif Memperkasa Rakyat. The rapid implementation, completed within a year from October 2023 to October 2024 including the demonstration phase, highlighted its potential to support the government's goal of 100% mobile broadband coverage by 2025, offering a quick and affordable solution to improve internet access in remote areas.

As a way forward, expanding access to technology and information should be a key focus. This will unlock opportunities for online learning and drive local economic growth through digital entrepreneurship, fostering more inclusive and connected communities.

Pemasangan WBS di Keningau, Sabah telah memberi manfaat kepada:



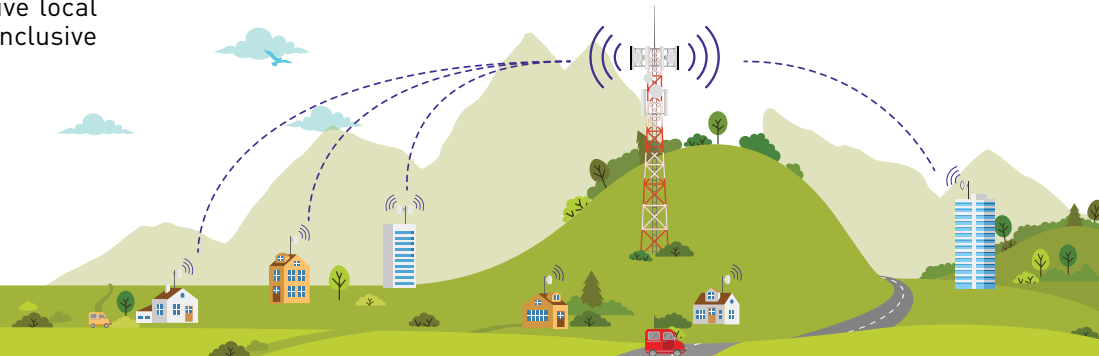
158
pelajar



15
guru



480
penduduk



Session on Expanding Wireless Internet Access using Wireless Bridging System technology, in collaboration with MOSTI, ASM, strategic partners, and the local community



Two bridge devices (transmitters) installed at the school to provide internet connectivity to shops and nearby homes in Simbuan, Tulid, Keningau



Access Point providing internet connectivity to kindergartens, labs, and back section of school premises



The ASM ArtScience™ Initiative, established in 2019, aims to bridge the gap between art and science, fostering creativity and innovation in Malaysia. It also aims to enhance skills and knowledge in sustainable and creative practices while promoting collaborative efforts that acculturate artistic and scientific disciplines.

To create a vibrant ArtScience™ ecosystem, the ASM ArtScience™ Prize, a biennial programme under this initiative, is a cornerstone programme aligned with Malaysia's cultural and environmental priorities recognising the artworks and projects that reflect this goal.

Several enriching programmes were successfully conducted, providing hands-on experiences and fostering cross-disciplinary collaborations:

ASM ArtScience™ Bamboo Workshop 1: Ideation and Understanding **3-4 January 2024**

This workshop introduced participants to bamboo as a sustainable material, with activities including expert-led lectures and a site visit to FRIM.

Multimedia Exposure and Networking Session **12 November 2024**

Organised in collaboration with Malaysia Digital Economy Corporation (MDEC), this session connected participants with industry experts, enhancing their skills in digital media and technology.

ASM ArtScience™ Bamboo Workshop 2: Model Making and Practical Application **16-18 November 2024**

Participants advanced their skills by creating scaled bamboo models and exploring its diverse applications.

Digital Art Intensive Training Session **28-30 November 2024**

A three-day online programme designed to equip participants with advanced digital art skills, fostering innovation in multimedia.



Snapshots from the ArtScience™ Bamboo Workshop

WEHAB++

Beyond COVID-19: Innovating for the Next Pandemic

ASM co-hosted the “Beyond COVID-19: Innovating for the Next Pandemic” workshop in collaboration with Monash University Malaysia and Crowell & Moring International on 5 April 2024.

The workshop, coordinated by the WEHAB++ Health Committee, included 11 ASM experts in the Special Interest Group (SIG) on COVID-19 and SIG Zoonosis. ASM’s COVID-19 Position Paper 2021 was recognised and cited as a foundational resource for discussions at the workshop.

The workshop, supported by Pfizer (Malaysia) Sdn Bhd, brought together health-related experts from ministries, academia, private sectors, and civil society organisations to discuss actionable strategies and key recommendations to strengthen pandemic preparedness and health systems resilience in Malaysia. The Chairperson of the ASM COVID-19 Position Paper, Emeritus Professor Dr Rosnah Mohd Zain FASc, highlighted the importance of developing actionable strategies through a participatory approach involving all sectors to fortify readiness for future pandemics.

The workshop also engaged inputs from in-depth breakout discussions of actionable strategies and roles by various stakeholders and key enablers within the framework. Recommendations gathered from the workshop will be incorporated into a white paper for consideration by the Ministry of Health in due course.



Experts discussing strategies and recommendations to strengthen pandemic preparedness and the resilience of Malaysia's health system



Precision Agriculture

ASM, through the WEHAB++ Agriculture Committee and the Precision Agriculture Working Group, hosted the “*Bengkel Pertanian Jitu ASM 2024: Mengoptimumkan Penanaman Padi Melalui Pertanian Jitu*” workshop on 10 December 2024.

The workshop convened approximately 60 stakeholders from government agencies, industries, academia, and farming communities to explore challenges and opportunities in adopting precision agriculture for rice farming. With Malaysia importing 30% of its rice to meet domestic demand, enhancing paddy yield per hectare is crucial to ensure national food security and sufficiency.

The discussions focused on identifying barriers, knowledge gaps, and strategic pathways to implement precision agriculture effectively. Participants shared insights on advancing technological adoption in rice farming, with a strong emphasis on increasing productivity and sustainability.

Key recommendations from the workshop will be consolidated and presented to relevant ministries for further consideration and action.



Roundtable Dialogue: Impact of Climate Change Negotiations on Malaysia

The ASM WEHAB++ Committee on Climate Change and Disaster Risk Reduction (CCDRR), under the chairmanship of Professor Joy Jacqueline Pereira FASc, convened the roundtable dialogue entitled 'ASM Roundtable Dialogue on the Implications of Global Developments on Climate Change in Malaysia' on 6 May 2024. The dialogue brought together climate change experts and key stakeholders, including representatives from Khazanah Research Institute and the Third World Network, to deliberate on the way forward in strengthening global climate negotiations for Malaysia.

The dialogue explored both physical and transitional risks of climate change and their broader implications, including trade dynamics, focusing on identifying knowledge gaps and strategies to address them to support informed global, national, state, and local policymaking. The focus was primarily on Malaysia, though commonalities and divergence from other country groupings such as ASEAN, China/G77, Like-Minded Developing Countries (LMDC) and Small Island Developing States (SIDS) were noted. Inputs from the dialogue were channelled to NRES.

Moving forward, a plan of work for identified issues will be developed, with ASM as a neutral and independent platform that brings together scientists and practitioners from multiple disciplines and sectors to address the knowledge gaps in the national communications and Biennial Update Reports and strengthen coordination of negotiating team, enhancing their knowledge, and addressing pertinent issues via involvement of subject matter experts.



ASM Roundtable Dialogue on the Implications of Global Developments on Climate Change in Malaysia

A Feasibility Study on Cultured Meat Processing and Cell-based Food in Malaysia

The Cabinet Committee Meeting on National Food Security Policy was held on 13 June 2024, whereby a paper on 'Proposal for Policy Setting on the Production and Sale of Cultured Meat and Cultured Meat Products as well as Cell-Based Food in Malaysia' was presented by MOH. The meeting decided that a feasibility study should be conducted to examine and evaluate the potential and feasibility of producing cultured meat, cultured meat products, and cell-based food as alternative sources of meat in Malaysia, jointly by MOHE and MOSTI.

Based on this, MOSTI approached ASM to carry out the feasibility study. A Pro-Tem Task Force on Cultured Meat Feasibility Study was coordinated by the ASM WEHAB++ Agriculture Committee, led by Professor Dato' Dr Zulkifli Idrus FASc. The Task Force convened a workshop on 14 August 2024 to discuss and deliberate proposed preliminary sub-projects for a detailed feasibility study proposal. The workshop was attended by 32 attendees from the project team, comprising experts from UPM, UTM, USM, Taylor's University, Cell-AgriTech Sdn Bhd, JAKIM & ministries to discuss and develop a proposal:

- To investigate the market demand and competitive landscape of cultured meat in Malaysia;
- To evaluate the technical requirements and feasibility of producing cultured meat;
- To evaluate cultivated meat production's financial and economic viability by conducting a comprehensive feasibility analysis, identifying and assessing associated risks, and performing an economic impact assessment;
- To conduct a comprehensive analysis of food safety and regulatory standards in Malaysia, focusing on developing and proposing a robust framework for the regulation, certification, and labelling of cultured meat;
- To determine the socio-psychological factors in Malaysian consumers' acceptance of cultured meat;
- To evaluate cultured meat production's sustainability and environmental impact by comparing its resource efficiency with conventional meat production; and
- To identify potential risks and mitigation strategies of cultured meat production.

With further enhancements from comments and suggestions by the ASM 64th STIPAC Meeting held on 29 August 2024, the proposal was submitted to KE at the end of December 2024.



Professor Dato' Dr Zulkifli Idrus FASc delivering a presentation on the feasibility of cultured meat processing and the development of cell-based foods in Malaysia

Rehabilitation and Conservation of *Gamat Emas*

Spanning from 2023 to 2026, the Rehabilitation and Conservation of Gamat Emas initiative is designed to deliver sustainable solutions for the gamat industry and the local community. It encompasses three key projects: Breeding & Rehabilitation, Social Innovation for Products Based on Gamat Emas, and Ecosystem Recovery. These integrated efforts aim to balance ecological preservation with economic innovation in Langkawi.

On 18 November 2024, the Rehabilitation and Conservation Programme of Gamat Emas (*Stichopus horrens*) in Langkawi marked its first milestone with the preliminary release of juvenile Gamat Emas into Langkawi's waters.

Moving forward to 2025, the initiative aims to establish a hatchery facility for breeding Gamat Emas in Langkawi, to rehabilitate the species, driving innovation in the development of new products, including high-value pharmaceutical applications with the participation of locals in Langkawi.

Ultimately, the programme's expected impact includes increasing the population of Gamat Emas in Langkawi's waters, thereby enhancing industry commercial revenue and benefiting the local community. Additionally, it supports the preservation of Langkawi's traditional heritage and is anticipated to contribute significantly to the growth of the tourism sector.



Dr Abe Woo Sau Pinn and Professor Dato' Dr Aileen Tan Shau Hwai FASc releasing the Gamat Emas juvenile into the designated Langkawi waters

Malaysia Open Science Platform

Since its launch on 16 May 2023, the Malaysia Open Science Platform continues to lead the open science movement in Malaysia, enhancing accessibility and transparency for Malaysian research through nationally connected repositories. MOSP also supports the research ecosystem by upskilling more data stewards, improving research data sharing practices and encouraging awareness on open science to the public, while adhering to the FAIR principle (Findable, Accessible, Interoperable, Reusable).

Training

a. Data Stewardship on Open Science Training

Cohort 1/2024: 29 April – 22 July 2024

(49 data stewards)

Cohort 2/2024: 12 August – 4 November 2024

(27 data stewards)

b. Introduction to Open Science Training with the National Institutes of Health (NIH)

2 – 3 July 2024 - Introduced open science elements such as open data, open access, open metrics and citizen science to research officers at NIH.

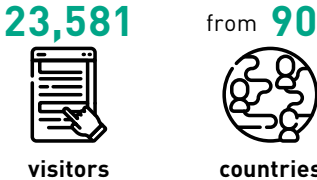
(40 officers)

c. Data Stewardship Training with Universiti Malaysia Kelantan (UMK) Library

1 – 2 September 2024 - Librarians from UMK were upskilled with hands-on training to manage research data and prepare data management plans to strengthen research practices and data sharing.

(20 librarians)

Till date, **337 data stewards were trained.**



Internationally, through MOSTI and ASM, Malaysia presented the concept of APECOSA at the APEC Policy Partnership on STI Forum (PPSTI). The APECOSA was proposed as an avenue for economies to share best practices on open science and make scientific knowledge more accessible across regions.



Chairperson of MOSA Technical Committee, Associate Professor Dr Liew Chee Sun, and Certified Data Steward, Dr Zubaidah Iberahim, during the Data Stewardship Training with UMK.



Malaysia Science Endowment

National long-term reliance on government funding for R&D is not sustainable. The responsibility of driving the country's development, traditionally held by the government, must now be shared with the private sector and industry. The *Belanjawan 2025* allocated RM170 million to MSE, spearheaded by ASM, to demonstrate impact and build public confidence in raising the endowment reserve that will generate perpetual funds for the nation's STIE development.

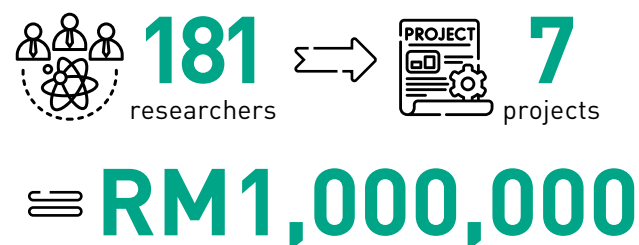
MSE adopts a forward-thinking approach to funding by addressing the need for sustainable sources for mission-oriented and long-term RDICE projects, with active involvement from the private sector and industry. This is achieved through a matching fund mechanism where funds from the private sector and industry are matched on a 50:50 basis.

The fiscal allocation from *Belanjawan 2025* will be directed towards the implementation of at least 11 impactful RDICE programmes nationwide. Among these, five mission-oriented and industry-driven programmes will support key sectors such as electrical and electronics, green hydrogen, oil and gas, rail services, aerospace, food security, and healthcare. Additionally, six international RDICE programmes will engage with 17 countries, fostering collaborative R&D that aims to generate economic and socio-economic benefits for both Malaysia and our partner nations.



Engagements

1. Two sessions of *Bengkel Permukiman MSE* with ministries, government agencies, industry leaders, professional associations, venture capitals and academics.
2. Engaged with the semiconductor industry to co-create a mission-oriented RDICE programme in developing local capacities in advanced packaging, with Collaborative Research in Engineering, Science, and Technology (CREST), Universiti Sains Malaysia (USM), and Malaysian Institute of Microelectronic Systems (MIMOS).
3. Discussions with Malaysia Petroleum Resources Corporation (MPRC) and Malaysia-Thailand Joint Authority (MTJA) to support the Oil & Gas Services and Equipment (OGSE) sector.
4. Collaborated with key players such as GUIDE, CRADLE, and Leave a Nest to create strategies that facilitate effective partnerships with venture capital firms and startups, supporting innovative ecosystems.
5. Collaborated with the British Council to match funding between MSE and the United Kingdom's International Science Partnership Fund (ISPF) on January 2024.



Throughout 2024, ASM explored the expansion of global outreach to 17 other countries through multilateral platforms like the Southeast Asia - Europe Joint Funding Scheme and the e-Asia Joint Research Programme.

ASM Chapters

ASM Chapters were established to effectively mobilise ASM's Expert Network and provide a platform for meaningful contributions to the nation. Comprising ASM Fellows, TRSM recipients, YSN-ASM members, and ASM Associates within the region, these chapters drive programmes and initiatives of national significance, aligning with ASM's mission to enculturate STI in Malaysia. ASM Chapters have organised various programmes targeting students and the public.

Program Pendidikan Alam Semulajadi Berasaskan Cendawan

The "Program Pendidikan Alam Semulajadi Berasaskan Cendawan" was successfully held at Taman Bukit Tawau from 12 to 14 November 2024.

 **80** | **17** | **100**
students | teachers | staff members

Through hands-on activities and educational sessions, the programme empowered them to become proactive advocates for biodiversity conservation and developed a heightened awareness of the ecological roles of mushrooms. They also gained insights into the importance of protecting natural habitats in Sabah and beyond. Through this experience, participants enhanced their leadership, teamwork, and environmental advocacy skills, preparing them to be future stewards of nature.



Students taking part in activities as part of Program Pendidikan Alam Semulajadi Berasaskan Cendawan

ideaXchange

• The 39th ideaXchange: 'Positioning Northern Corridor as a Hub of Global Smart Technologies'

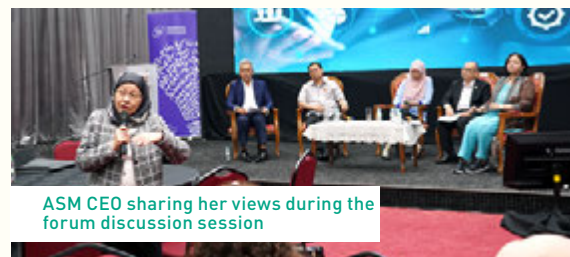
was held on 8 May 2024 at the Northern Corridor Implementation Authority (NCIA), Penang. This initiative brought together key stakeholders to discuss the issues and challenges faced by industries in Penang, particularly in the electrical & electronics sector. The dialogue aimed to enhance the region's potential as a global smart technology hub, fostering innovation and strategic growth.



Discussion session on issues in the electrical and electronics sector affecting the industry in Penang

• The 40th ideaXchange: 'Creating the Ecosystems to Position Malaysia as the Business and Services Hub for the Region'

was held on 12 June 2024 at UTM, Johor. The programme focused on developing sustainable business and service ecosystems, featuring case studies of successful business and service hubs from other regions and draw valuable lessons applicable to Malaysia's context. The discussions emphasised strategic planning, policy recommendations, and industry collaboration to strengthen Malaysia's role as a regional business and services hub.



ASM CEO sharing her views during the forum discussion session

Program Ceramah Kerjaya

Program Ceramah Kerjaya was successfully organised on 14 October 2024, in collaboration between the ASM Sabah Chapter and Universiti Malaysia Sabah (UMS). The programme aimed to expose secondary school students in Sabah to various career opportunities in science, technology, engineering, and mathematics (STEM) and motivate them to consider STEM-related fields for their future studies.

The programme provided them with first-hand experiences in STEM-related fields, allowing them to apply concepts they had previously encountered in the classroom or through digital media. Program Ceramah Kerjaya underscored the commitment of ASM Sabah Chapter and its partners to nurturing the next generation of STEM professionals and fostering a culture of scientific curiosity and innovation among students in Sabah.



133
students



7
Kota Kinabalu schools



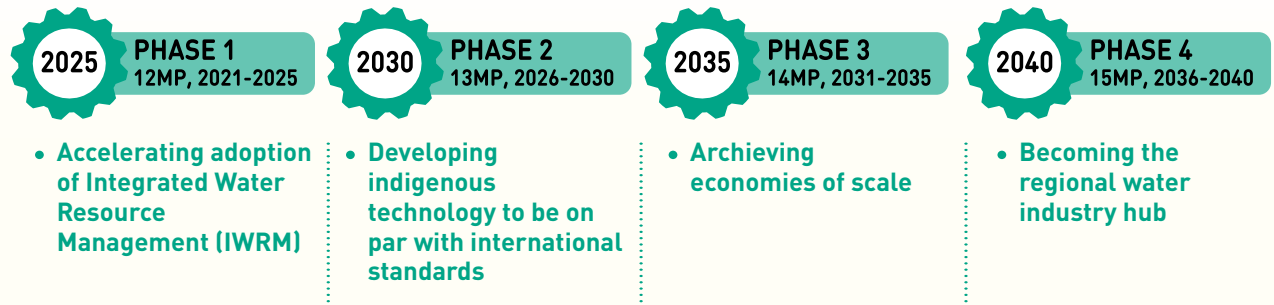
Students participating in hands-on STEM activities as part of the Career Talk Programme

Water Sector Transformation 2040



Deputy Prime Minister delivering his address before launching the Water Sector Transformation 2040

Water Sector Transformation 2040 (AIR 2040) is a national agenda to transform the water sector into a sustainable economic sector that can contribute significantly to the national gross domestic product, provide good, quality, affordable water to the rakyat, create job opportunities, and advance the development of STIE. The roadmap will be implemented over 20 years through four phases under the 12MP to 15MP. AIR 2040 was launched by the Deputy Prime Minister, YAB Dato' Sri Haji Fadillah Haji Yusof, on 29 October 2024.



At the same event, ASM CEO, Puan Hazami Habib moderated a forum titled “Towards Empowering the Water Sector to Ensure People’s Well-being”. The session, featuring six panellists, discussed issues such as the integration of smart technology in water resource monitoring, water pollution, and the importance of public-private collaboration to accelerate the initiatives outlined in AIR 2040.

The government plans to invite bids from the private sector as an alternative financing solution to help reduce the burden on the government in tackling the high level of non-revenue water (NRW).

“by 2040, the Malaysian government envisions the country becoming a water hub for developing countries and the ASEAN region. To realise this vision, Malaysia aims to establish itself as a global reference centre for research & development, innovation, and talent development within the water sector.”

Deputy Prime Minister, YAB Dato’ Sri Haji Fadillah Haji Yusof

“Transforming the country’s water sector could benefit from a mission-oriented approach by identifying water sector’s prime challenges, determine main missions, garner active support and engagement from stakeholders such as the Government and agencies, state governments, local industries, academia, and communities to carry out main mission projects collaboratively.”

ASM President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc



Transformasi Air: Ke Arah Pemerkasaan Sektor Air untuk Menjamin Kesejahteraan Rakyat Forum with ASM CEO as moderator

BRIDGING KNOWLEDGE, SOCIETY & THE FUTURE





Young Scientists Network

The Young Scientists Network (YSN-ASM) fosters interdisciplinary collaboration, policy influence and capacity building to address contemporary challenges and shape the country's STI ecosystem and scientific future by representing the voice of young scientists in Malaysia.

YSN-ASM's Involvement in NSC

The YSN-ASM play a pivotal role in shaping the overall framework of NSC as the concept and content strategist. Their involvement ensure that the competition remains aligned with current and emerging global trends in STEM education, while being thoughtfully tailored to inspire the next generation of Malaysian scientists, innovators, and critical thinkers.

1. Developed high-impact, stimulating questions and modules to assess students' grasp of fundamental science concepts and capacity for analytical reasoning, problem-solving, and scientific communication.
2. Provided dedicated mentors to all 20 semi-finalist teams throughout their journey in the STEM Camp.



Associate Professor Ts Dr Aslina Baharum as one of the mentors to the finalist teams during the NSC STEM Camp

YSN-ASM Chrysalis Award

This year, a total of 162 applications were received for the YSN-ASM Chrysalis Award, with 15 finalists selected to undergo specialised training. Themed around "Tomorrow's Leaders: Cultivating Innovation and Impact for Our Nations and Communities", the event highlights the necessity of nurturing young Malaysian leaders in STIE who are innovative, responsible, and committed to making a meaningful impact on Malaysia's future STIE ecosystem.



Winner: Wong Li Wen (Monash University)

Revolutionising Diabetic Monitoring: A Natural Hydrogel Patch for Highly Efficient and Painless Glucose Sensing

"It must be highlighted that young scientists hold immense importance for Malaysia. Currently, about 30% of the total population of researchers in Malaysia falls under the category of young scientists. This further cement your role in unlocking the new frontiers of innovation."

YB Dato' Haji Mohammad Yusof Apdal,
Deputy Minister of MOSTI

YSN-ASM Colloquium

On 8 November 2024, the YSN-ASM Colloquium brought together 98 members nationwide. It served as a strategic platform for YSN-ASM members to contribute valuable insights towards strengthening Malaysia's scientific community. This year's theme, "Innovate to Impact: Mission-Oriented Science for a Better Tomorrow," set the stage for a series of inspiring and forward-thinking sessions aimed at shaping the future of Malaysia's scientific landscape.

Moving forward, the YSN-ASM aims to enhance the role of young scientists in policy development, particularly in education and RDICE ecosystems, while strengthening their influence as the voice of the younger generation of scientists and researchers at the highest level of decision-making, including recognition at the NSC and beyond.

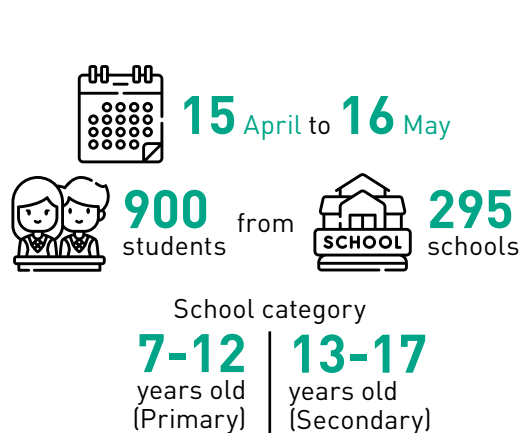


Highlights from the YSN-ASM Colloquium

Minggu Sains Negara

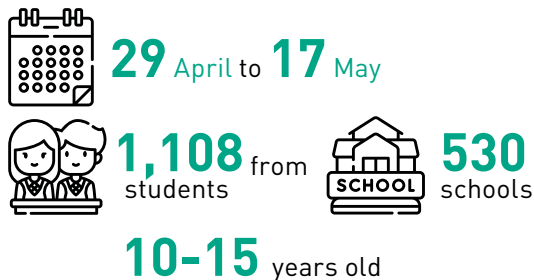
Ceritera ArtScience™

Ceritera ArtScience™ is a science activity implemented to encourage science exploration at home using natural-based materials and recyclable materials. Based on the theme "Anyone can do Science: Natural Based Materials or Recyclable Materials", school students created posters and produced science videos explaining it.



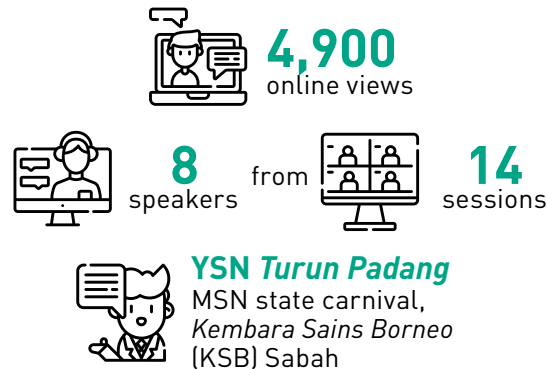
E-Games Kesihatan Planet

E-Games Kesihatan Planet aims to enhance students' understanding of the planetary health concept and increase their interest in STEM through a different platform while cultivating a more environmentally conscious generation.



Borak Sains

Borak-Sains aims to enhance science awareness by bridging the gap between the public and the scientific community. This programme focuses on producing science-related talks in Bahasa Melayu, covering contemporary topics such as fun science facts, STEM activities, and more. The video content also serves as a resource to support other flagship initiatives, such as YSN Turun Padang.



IBSE Training Module

Inquiry-Based Science Education (IBSE) encourages children to engage in hands-on exploration, experimentation, questioning, and reasoning-based learning. In 2024, the IBSE Module Development Workshop, organised in collaboration with ISTIC-UNESCO, focused on topics related to health and chemistry.

The following training programmes were conducted:

- IBSE training for YSN-ASM members and affiliates
- Training sessions during NSC 2024 STEM Camp, covering the 5E model and YSN IBSE modules for teachers

The modules are being developed and scheduled for completion in 2025. Moving forward, the IBSE Training Workshop will be included as one of the satellite programmes to train educators at MSN 2025.

Global Engagement

YSN-ASM strengthened its global engagement further through representation at two prestigious international events.

Science at the Shine Dome 2024 in Canberra, Australia

9-12 September

Dr Phan Chia Wei and Associate Professor Dr Suganthi Appalasamy engaged with the EMCR Forum, fostering discussions on career development, research collaborations, and shared challenges among Asia-Pacific scientists.

Science and Technology in Society (STS) Forum 2024 in Kyoto, Japan

6-8 October

Dr Ng Siew Kit discussed on AI advancements, healthcare applications, biotechnology breakthroughs, and scientific trust.

YOUNG SCIENTISTS
NETWORK
MALAYSIA

Malaysian Code of Responsible Conduct in Research

Gaining international recognition and respect, Malaysian researchers uphold high standards by aligning research quality with global benchmarks. The Malaysian Code of Responsible Conduct in Research (MCRCR) reinforces integrity and ethical principles, embedding them throughout the research process to ensure excellence at every stage.

In September 2024, ASM was invited by UPM to organise a one-day MCRCR course. This course was conducted by Dr Chau De Ming as the instructor and was attended by 20 participants from among scientists and researchers. After the course, participants undertook a one-hour assessment to assess their understanding of the subject. Those who successfully passed received a certificate, which will remain valid for five years.

Additionally, the National Committee on Research Integrity (NCRI) initiated the development of an online MCRCR course which will allow greater visibility and reach of the MCRCR training course.

This year, NCRI governance was strengthened through the appointment of permanent members from the Ministry of Health (MOH), the Ministry of Higher Education (MOHE), and the Institute of Integrity Malaysia (IIM). Their involvement augurs well with the aim to cascade the MCRCR ethos and values to the scientific and research communities throughout Malaysia.

MCRCR training course



170

trained researchers
from



4

higher education and
research institutions



Dr Chau De Ming delivering a session on understanding the MCRCR to the participants

Scan here to
download



10-10 MySTIE Technology Series and Innovation Kopitiam

In ensuring the widespread adoption of the 10-10 MySTIE initiative, ASM has taken a pragmatic approach by introducing the 10-10 MySTIE Technology Series and Innovation Kopitiam since 2023. In 2024, two series of events were held in conjunction with the ASM Roadshow. It drew a notable turnout of more than 800 actively engaged participants across physical and online platforms. The first for 2024 took place on 8 May at NCIA, Pulau Pinang.

Framed around the theme of 'The Next-Generation Semiconductor Industry: Smart Technology and Systems', the event highlighted the growing importance of smart technology and systems advancements within the semiconductor ecosystem. This theme underscores its crucial role in shaping a sustainable future in Malaysia, as it is one of the emerging technologies focused on this region.



The panelists share insights on the importance of technological advancement and smart systems within the conductor system



Scan here
to watch



Scan here
to watch

The panelists discuss challenges and opportunities within the evolving technological landscape

The second event then took place at UTM on 12 June. The discussion concerned 'Enhancing National Digital Security through Cybersecurity and Blockchain Technologies'. This theme resonated strongly, especially within the Johor-Singapore Special Economic Zones, which focused on the digital economy sector.

The insights gained from discussing opportunities and challenges related to emerging technologies and landscapes during the event will be used to develop a strategy paper for the next 13MP and the 10-10 MySTIE Transformation Book 2.0 initiative. The strategy paper will offer a comprehensive approach to addressing the urgent need for an enhanced STIE ecosystem for Malaysia to become resilient and prosperous by implementing the proposed strategies and actions.

2 series  more than 800 participants physically & virtually

FASciate

FASciate showcases our distinguished speakers' expertise and personal journeys, including ASM Fellows, Associates, TRSM and YSN-ASM members, who serve as inspiring role models. Their achievements and stories offer valuable insights into the pursuit of knowledge and excellence in STIE.

• Impact

Inspiration for Future Generations of Scientists and Engineers:

By highlighting the personal journeys and achievements of ASM Expert Network, FASciate has inspired students and young professionals to pursue careers in STIE. The diverse backgrounds and expertise of speakers demonstrate that impactful contributions to science are possible across a variety of disciplines.

• Way Forward

Develop Thematic Mini-Series or Podcasts:

Introduce mini-series or spin-off podcast episodes that dive deeper into selected topics and follow-up interviews with speakers.

The first series of FASciate for this year was held on 17 July 2024, featuring experts who discussed topics such as oil palm, rare earth elements (REE), artificial intelligence (AI) in biodiversity, and quantum technology. These fascinating topics were explored, with an opportunity for the viewers to have their questions answered by our expert speakers.



Dr Harikrishna Kulaveerasingam FASc
The Green Gold Quest: Perfecting Oil Palm Selection

Dato' Sia Hok Kiang FASc
Developing the REE Resources of Malaysia, an Integrated Approach



Professor Ts Dr Nurfadhlina Mohd Sharef
Defending Malaysia's Biodiversity with AI

Professor Dr Raymond Ooi Chong Heng FASc
Quantum Technology: Harnessing Entanglement, the Most Mind-Boggling Scientific Concept



The second series was held on 19 December. The programme featured ASM experts who discussed FAScinating topics such as their journey to becoming an engineer in Malaysia, the intriguing world of zombie fungi, and physics education reform.



Dato' Ir Dr Dennis Ganendra FASc
From Petaling Jaya to the World: Malaysian Engineering Boleh!

Associate Professor Dr Jaya Seelan Sathiya Seelan
Zombie Fungi: Don of Cure



Dr Muhammad Abdul Hadi Bunyamin
Reforming Physics Teaching-How?

Scan here to watch



FASciate
Open Minds, Spark Ideas

Nobel Laureate Lecture

Since 2001, ASM's National Nobel Laureate Programme has made significant strides in cultivating excellence in Malaysia's STI. The active engagement of Nobel Laureates in advising and mentoring the local scientific community has played a pivotal role in fostering a capable, progressive, and competitive environment within the country.

As part of this initiative, 24 Nobel Laureates have participated in various programmes in Malaysia. ASM and partners have organised a total of 48 sessions, including general lectures, scientific presentations, and motivational science sessions.

This year, Nobel Laureate Sir Paul Nurse, the 2001 Nobel Prize Winner in Physiology or Medicine, delivered a concise and highly informative lecture encompassing a wide range of life science knowledge. ASM and the National Institute of Biotechnology Malaysia (NIBM) were honoured to host Sir Paul, who delivered a lecture titled "What is Life?" on 24 June 2024.

This 25th edition of the Nobel Laureate Lecture, moderated by ASM Vice-President, Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc, attracted participants from government and private sectors, experts, lecturers, school and university students, and the general public.



Key moments from the Nobel Laureate Lecture

"The life we are a part of is complex, and understanding it is fundamental to our civilisation and can improve our humankind."

Sir Paul Nurse, Nobel Laureate

Scan here to watch



Publications

ASM continued to bridge science and society through impactful publications. In 2024, ASM expanded its reach beyond the scientific community, promoting science as a shared cultural pursuit. By creating accessible and engaging narratives, ASM's Publication spotlighted breakthroughs and thought leadership while also nurturing curiosity and participation among the public through increased physical engagement. ASM's Publication celebrated the people behind the progress, humanising discovery and dedication, and fostered deeper connections between science and society.

e-Publication



Total publications
147 (as of 2024)



Readership
25,554



Impression
135,018



Downloads
16,656 from 78 countries

Reports

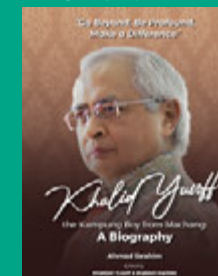


Annual Report 2023



Global Knowledge Dialogue: Asia-Pacific Region Full Report

Biography



Khalid Yusoff, the Kampung Boy from Machang: A Biography

Manuals & Guideline



Guidelines for FAIR Biodiversity Data Stewardship



Manual Specimen Digitisation for FAIR Biodiversity Data Stewardship



Manual: Specimen Database Management System (SDBMS) for FAIR Biodiversity Data Stewardship



Guidelines for FAIR Biodiversity Data Stewardship

Studies



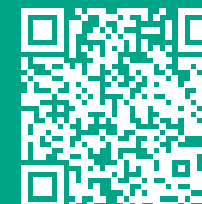
A New Horizon for Science, Technology, and Innovation – A Strategy to Enhance Higher Education in Malaysia



Nurturing Next-Generation Talent for Knowledge-Based, Values-Driven Development



Business Model for the Development of Ion-Adsorption Clay Rare Earths Industry in Malaysia



Scan to read our publication

e-estidotmy

e-estidotmy is a compilation of STEM articles, infographics, videos and activities, targeted to students, teachers, and parents. As an online pop-science portal, e-estidotmy had been actively present during the Minggu Sains Negara, having opened its booth to the public in six states throughout 2024: Kelantan, Pulau Pinang, Perak, Perlis, Melaka, and Putrajaya.

e-estidotmy was received by thousands of interested audiences comprising the general public, parents, educators, and students. Visitors participated in the many activities offered, in which e-estidotmy grew its online presence through new website visitors and gained social media followers.

Looking ahead, e-estidotmy aims to enhance its online content with a vibrant TikTok presence while making bigger waves both online and offline. To spark more interest in STIE, ASM is gearing up to visit more schools, bringing e-estidotmy directly to students and teachers, making learning fun, engaging, and full of exciting collaboration opportunities.



Website pageviews
53,106 +120% growth
since 2023



Facebook followers
1,000 +18.06% growth

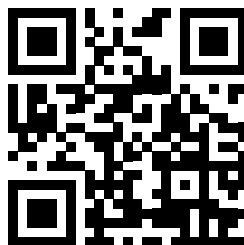


Instagram followers
419 +61.15% growth



X followers
298 +4.56% growth

e-estidotmy
Enriching Minds Through STEM



Scan here to visit
e-estidotmy



e-estidotmy booth featuring STEM-related activities held across six states receiving encouraging response from students, teachers, and parents

ASM Science Journal

ASM Science Journal is an open-access, peer-reviewed, and indexed multidisciplinary research journal that aims to serve research perspectives with more than 1,000 articles published since 2007. The journal has transformed from hard copies to digital and open-access journals.

Scope



Medical



Engineering and Technology



Earth and Environmental



Mathematical



Physical



Chemical



Biological and Agricultural



Information and Communication Technology (ICT)



Science-related Policy



The journal serves as the forum for disseminating significant research perspectives.



No Article Processing Charge (APC).



Printed copies since 2007 and online since 2017.



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Editorial Board Members are local and international STI experts from various fields.

Scopus* Listed in Top 10 Malaysian Journals indexed in Scopus.



One of MOSP's repositories



Total articles published
1,107 since 2007

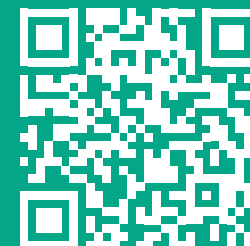


Total visits
673,987 since 2017



H-Index
11

Think Science. Celebrate Technology. Inspire Innovation
ASM SCIENCE
JOURNAL
WWW.AKADEMISAINS.GOV.MY



Scan here to visit ASM Science Journal

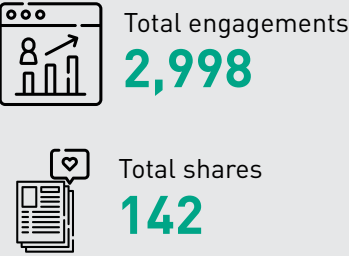
Communications

At ASM, communication efforts are centred on making science accessible and relevant to the public. Leveraging strategic tools such as podcasts, social media, factsheets, and multimedia content, ASM continues to enhance public understanding of science while expanding its digital footprint. ASM also maintains a strong media presence, with increased coverage of national issues and ASM initiatives through its Expert Network, amplifying both its voice and visibility. This approach ensures that ASM remains a trusted and relevant resource for all our stakeholders.

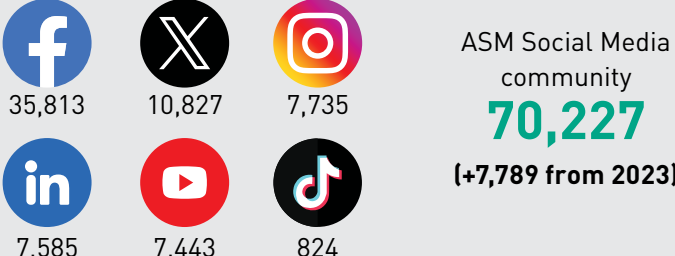
ASM Media Mentions



ASM Factsheets



ASM Social Media



ASM Podcast



Ep 39 – Inspirasi Saintis Muda YSN-ASM: Perasaan Ingin Tahu yang Mendorong kepada Kejayaan

Top three episodes



Ep 35 - The Future of the Malaysian Creative Industry



Ep 42 - From Malacca to China, the 2023 National Science Challenge Winners' Journey



ASM YouTube Channel



Warna-Warni Aidilfitri ASM
34 hours



Lecture on Acoustofluidics
32 hours



YSN-ASM Chrysalis Award 2023 Final Pitch
21 hours



In Memoriam

Emeritus Professor Dr Mak Joon Wah FASc

11 December 1942 - 26 January 2024

The late Emeritus Professor Dr Mak Joon Wah FASc was a distinguished expert in parasitology, tropical medicine, and public health. After graduating, he focused his research on combating infections that were widespread at the time, including *malaria*, which had up to 30,000 reported cases in the 1970s and 1980s, and *filariasis*. Professor Mak and his team tirelessly conducted and participated in numerous surveys across the region, working on the ground in affected areas such as the Federal Land Development Authority (FELDA) land schemes, rubber estates, and Orang Asli settlements.

In addition, Professor Mak and his team pioneered the “in vitro” cultivation of the *filarial* parasite (*Brugia malayi*) to address the World Health Organisation’s (WHO) need for drug development against *filariasis* and *onchocerciasis*. This groundbreaking achievement led WHO to organise a training workshop in 1984 to disseminate the technique.

The late Professor Mak’s expertise in *filariasis* and *malaria* was globally recognised, he was appointed as a consultant of WHO in 17 countries. His dedication and impact in these areas earned him international acclaim and contributed to numerous advancements in public health worldwide. Professor Mak was also a key figure in advancing tropical medicine in Malaysia, holding leadership positions in organisations such as the Malaysian Society of Parasitology and Tropical Medicine. In recognition of his invaluable contributions to science and society, he was honoured with the prestigious Merdeka Award in 2011 and the National Science Award in 1985.

His legacy continues to impact lives affected by this disease locally and around the world.





Dr Goh Swee Hock FASc

14 October 1940 – 25 May 2024

The late Dr Goh Swee Hock FASc was a distinguished expert in organic chemistry, specialising in lipid chemistry with a particular focus on palm oil. His scientific excellence was recognised when he received the Malaysian Institute of Chemistry Gold Medal in 1994.

He held prominent academic positions, including Senior Fellow at the National University of Singapore (1995–2000) and Chair and Professor of Organic Chemistry at the Universiti Malaya (1990–1995). His research interests encompassed natural products, drug discovery, biofuels, and the chemistry of bioactive compounds, with a notable emphasis on the constituents of palm oil.

The late Dr Goh played a pivotal role in advancing the organic chemistry of palm oil, making significant contributions to its industrial and environmental applications. Throughout his career, he served as a visiting professor at renowned institutions such as the University of Melbourne and the Australian National University. He was involved in numerous advisory and editorial boards.

Dr Goh's legacy in organic chemistry and palm oil research will continue to inspire future generations.

In Memoriam

Ir Dr Ting Wen Hui FASc
5 June 1936 – 23 May 2024

The late Ir Dr Ting Weh Hui FASc was a distinguished Malaysian engineer, renowned for his expertise in soils and highway engineering as well as geotechnical engineering. He was the first Malaysian to earn a PhD in Geotechnical Engineering from the University of Cambridge, setting a pioneering example in the field.

Throughout his illustrious career, Dr Ting's profound knowledge and insights were highly sought after. He was frequently invited to speak at numerous national and international conferences, where his contributions shaped discussions within the engineering community. His leadership extended to several significant roles, including serving as President of the Institution of Engineers Malaysia (IEM) from 1995 to 1997.

In 2013, Dr Ting became the founding President of the Malaysian Geotechnical Society (MGS), where he played a pivotal role in laying the foundation for the society's mission to advance geotechnical knowledge and foster collaboration among professionals.

The late Dr Ting's remarkable achievements and visionary leadership left a lasting legacy, influencing both academia and industry and securing his place as a trailblazer in the engineering world.





Tan Sri Dato' Seri Haji Musa Mohamad FASc
29 November 1943 – 8 June 2024

Allahyarham Tan Sri Dato' Seri Haji Musa Mohamad FASc was a distinguished figure who played a pivotal role in shaping Malaysia's education system. With over 20 years of experience in teaching and academic administration at USM, his impact was profound. As Vice-Chancellor of USM (1982-1995), he made significant strides in the physical and academic development of the university, particularly in medical sciences and engineering. His visionary leadership transformed USM into one of Malaysia's foremost institutions of higher learning, leaving a lasting legacy in the nation's educational landscape.

Tan Sri Musa also served as the Former Chairman of the Board of Trustees for Dewan Bahasa dan Pustaka (DBP) (1983-1985). His unwavering commitment to preserving and promoting the national language guided DBP in executing vital programmes that reinforced the cultural and linguistic identity of the country. In addition, Tan Sri Musa made history as the first non-politician to serve as Minister of Education (1999-2004). His leadership was key in advancing Malaysia's education system, ensuring local institutions met international standards and setting the foundation for long-term growth and global competitiveness.

Allahyarham Tan Sri Musa's exceptional contributions to education and science earned him numerous accolades throughout his career. He was honoured with several honorary doctorates from prestigious institutions, including USM, Multimedia University (MMU), and University Malaysia Sabah (UMS). His exemplary service was further recognised with national and state honours, including the Commander of the Order of Loyalty to the Crown of Malaysia (PSM) in 1994, which conferred upon him the title of '*Tan Sri*'.

His legacy continues to inspire future generations of educators, leaders, and policymakers.

In Memoriam

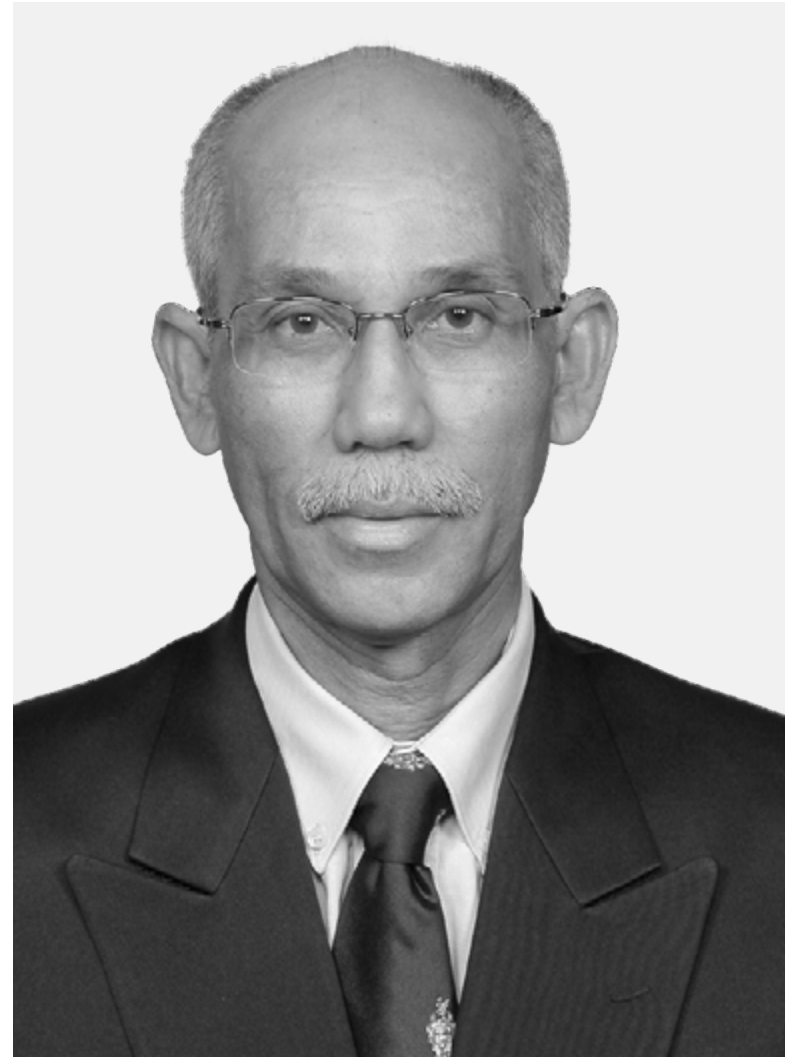
Emeritus Professor Dato' Dr Ir Zainul Abidin Md Shariff FASc
16 November 1949 - 17 October 2024

Allahyarham Emeritus Professor Dato' Dr Ir Zainul Abidin Md Shariff FASc was a distinguished academic and engineer. He was recognised for his expertise in digital signal processing, speech and image processing, condition monitoring of electrical devices, artificial intelligence, and deep learning. His research and innovations in these fields significantly contributed to the fields of electrical engineering, computer science, and higher education in Malaysia.

In 1997, he was called back by Tenaga Nasional Berhad (TNB) to assist in establishing Universiti Tenaga Nasional (UNITEN). Over the course of his tenure, he served as Dean of the College of Engineering, Rector, and eventually as the Vice-Chancellor from 2001 to 2006. His leadership was instrumental in positioning UNITEN as a respected institution for engineering education. Prior to that, he spent 25 years at UKM, where he was deeply involved in academic development and research supervision, influencing the careers of many engineers and scholars.

In recognition of his contributions to the nation, Professor Zainul Abidin received the Order of Loyalty to the State (*Darjah Setia Pangku Negeri*) in 2005 and served actively on various expert panels, including MOSTI's eDANA Research and Development (R&D) Evaluation Committee from 2017 until his passing. He was also a dedicated member of professional bodies such as the Institute of Electrical and Electronics Engineers (IEEE), the Institution of Engineers Malaysia (IEM), and the Board of Engineers Malaysia (BEM).

Allahyarham Professor Zainul Abidin's impact lives on through the advancements and minds he helped shape.





Professor Ir Dr Nasrudin Abd Rahim FASc
17 November 1960 - 11 November 2024

Allahyarham Professor Ir Dr Nasrudin Abd Rahim FASc was a respected expert in power electronics and drives, solar photovoltaic (PV) technologies, real-time control systems, transportation demand-side management, and energy policy. His work spanned both academic research and industrial applications, with significant contributions in consultancy, professional testing services for solar farms, and the development of specialised research facilities in solar inverters and PV modules.

He began his academic career in 1996 as a lecturer in power electronics at UM, where he served with distinction until his retirement in 2020. He later returned to UM as a senior contractual professor. Over the years, he held key leadership roles, notably as Founding Director of the UM Power Energy Dedicated Advanced Centre (UMPEDAC), a Higher Institution Centre of Excellence which he was instrumental in establishing.

He led numerous pioneering research initiatives in renewable energy, power electronics, and energy efficiency. He was the project leader for several national projects, including the Malaysian Building Integrated PV (MBIPV) initiative, which produced the first Made-in-Malaysia grid-connected PV inverter. His innovations included the commercialisation of a solar monitoring and diagnostic system, as well as the licencing of a 4kW grid-connected inverter to Endau-XT Sdn Bhd. He also led the development of a self-cleaning coating for solar panels under Van Coating Sdn Bhd, designed to reduce dirt accumulation and enhance energy yield.

The visionary work of Allahyarham Professor Nasrudin in renewable energy and power systems continues to illuminate the path toward a more sustainable future for Malaysia and beyond.

In Memoriam

Tan Sri Dato' Seri T. Ananda Krishnan FASc
01 April 1938 - 28 November 2024

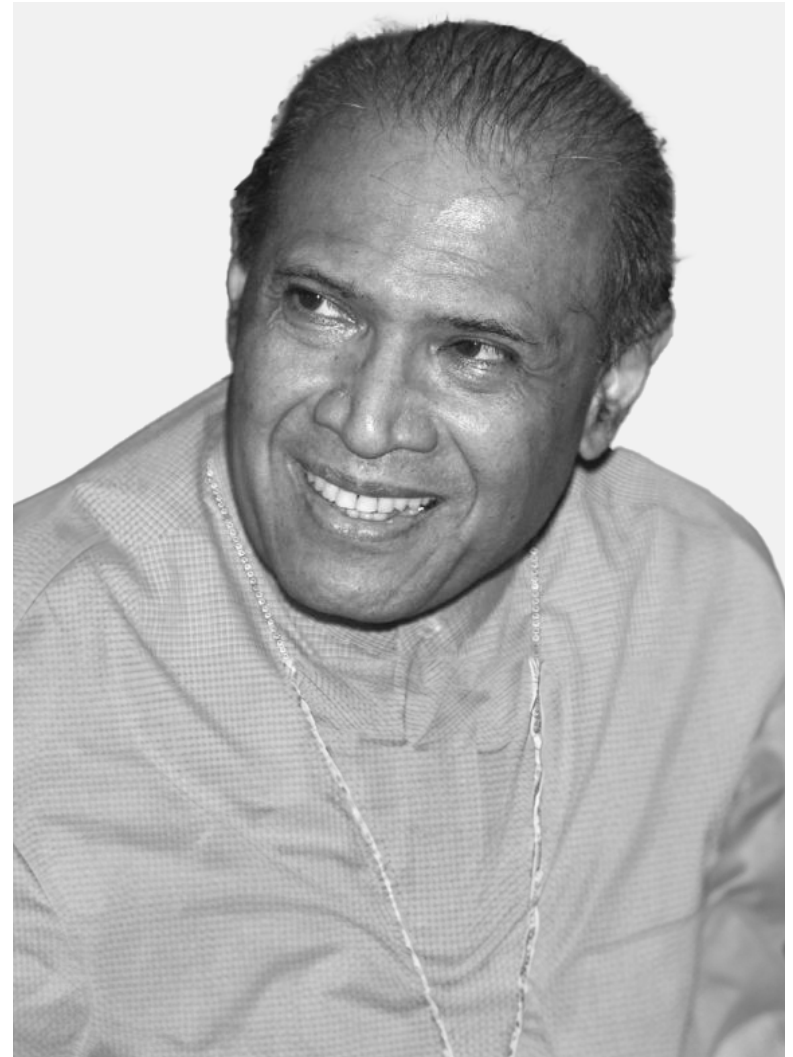
The late Tan Sri Dato' Seri T. Ananda Krishnan FASc was a visionary businessman, philanthropist, and one of Malaysia's most influential figures in telecommunications, media, and energy. He was instrumental in establishing Maxis Communications as Malaysia's first private telecommunications company. Under his leadership, Maxis expanded rapidly, becoming the largest mobile operator in the country and significantly contributing to the development of Malaysia's telecommunications infrastructure.

As the founder of Astro, Malaysia's first direct broadcast satellite television service, he revolutionised the media landscape. Astro not only introduced a new form of entertainment, but also brought international content to Malaysia, diversifying the nation's media offerings and fostering cultural development. His influence extended beyond Malaysia's borders, with Maxis expanding into India and Astro reaching other Southeast Asian countries, solidifying his global business leadership.

Tan Sri Ananda's business success was further demonstrated through his contributions to the energy sector. Through Bumi Armada, an offshore oilfield services company, he played a pivotal role in shaping Malaysia's energy landscape and enhancing its presence in global offshore oil and gas operations, positioning Malaysia as a significant player in the global energy sector.

He also founded Usaha Tegas and served as its chairperson. Under his guidance, Usaha Tegas launched the *Harapan Nusantara* Education Fund, supporting 100 students annually to pursue specialised programmes at local private universities in collaboration with international institutions. Additionally, he initiated the Yu Cai Foundation (YCF), focusing on advancing educational development, particularly within Malaysia's ethnic Chinese communities.

The late Tan Sri Ananda's enduring legacy lives on through the industries he transformed, the lives he uplifted, and the future generations empowered by his philanthropic vision.





Academician Datuk Ir Hong Lee Pee FASc

22 May 1946 - 24 December 2024

The late Academician Datuk Ir Hong Lee Pee FASc was a pioneering civil and geotechnical engineer, renowned for his expertise in foundation piles, geotechnical engineering, and innovative infrastructure systems. He had developed and patented several engineering breakthroughs, including the Tripile, Two Pile Test, IFP Penetrometer, as well as the “Airport above the Sea” concept which was an internationally recognised innovation granted patents in several countries, including the United States. He also founded PILECON Engineering Sdn Bhd and grew it into PILECON Berhad, the first construction company to be listed on the Kuala Lumpur Stock Exchange. Under his leadership, the company made significant contributions to the transformation of Malaysia’s construction industry.

Datuk Hong held fellowships and registrations with several national and international engineering institutions and served in leadership roles across academia, government, and diplomatic spheres, including as Chairman of the Social Security Organisation (SOCISO) and Honorary Consul of Lithuania in Malaysia. He was also a long-serving Council Member of Universiti Tunku Abdul Rahman (UTAR) and actively contributed to economic and policy think tanks.

In his later years, Datuk Hong was a passionate advocate for the promotion of STEM, particularly among school and university students. As President of ASEAN Academy of Engineering and Technology (AAET), he initiated the Kuala Lumpur Engineering Science Fair (KLESF), which has grown into a major annual event supported by multiple national agencies and institutions.

The late Datuk Hong’s enduring commitment to education, innovation, and nation-building continues to inspire engineers, researchers, policymakers, and young minds across Malaysia and beyond.

Financial Report

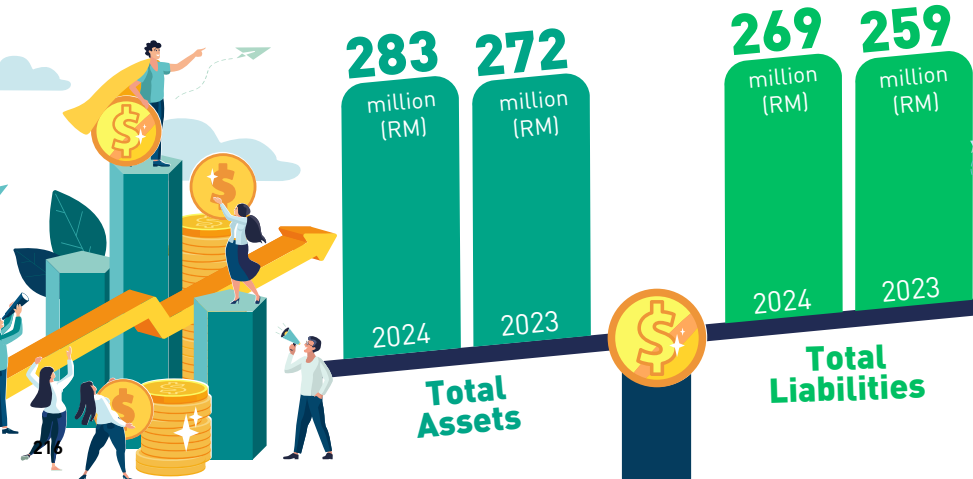
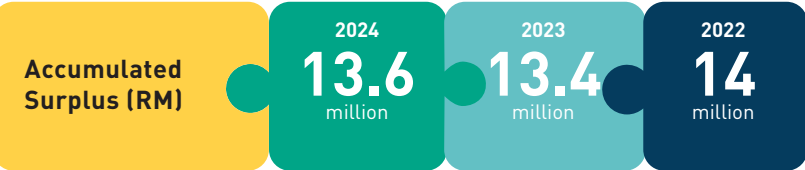
Financial Overview & Analysis

The Financial Statements of ASM and its reports are prepared in accordance with the Academy of Sciences Malaysia Act 1994 (ACT 524) and the Malaysian Public Sector Accounting Standards (MPSAS). This report aims to describe the financial position of ASM as well as a summary of financial transactions for the year ended 31 December 2024.

The Financial Statements for the year ended 31 December 2024 were prepared and submitted to the Auditor General on 10 February 2025. The Auditor General audited the 2024 Financial Statements and issued the Auditor General's Certificate on 14 April 2025.

Statement of Financial Position

ASM's Financial Position in 2024 recorded an accumulated surplus amounting to RM13,618,887 [2023:RM13,442,540]. The total assets that have been recorded in 2024 were RM283,416,496 [2023: RM272,507,332] while the total liabilities were RM269,797,609 [2023: RM259,084,792].



2024/2025 Finance Committee Members

- Academician Emeritus Professor Datin Paduka Setia Dato' Dr Aini Ideris FASc, Honorary Treasurer (Chairperson)
- Professor Dato' TPr Dr Alias Abdullah FASc
- Ts Dr Chantara Theyy Ratnam FASc
- Dato' Dr Jalaluddin Harun FASc
- Professor Dato' Dr Mohd Ali Hassan FASc
- Emeritus Professor Dato' Dr Mohd Jamil Maah FASc
- Emeritus Professor Dr Normah Mohd Noor FASc
- Professor Datuk Dr Rohana Yusof FASc
- Professor Dr Zainuriah Hassan FASc

Liabilities

Development Grant
RM250,524,853
ASM managed four projects under the 12MP

Deferred Grant
RM6,655,863
ASM received several projects from the Malaysian Government for a specific purpose. ASM is bound by the terms of reference and duration of the programme as outlined in the agreement.

Deferred Grant - International
RM1,050,886
An allocation for ISTIC which is UNESCO Category II hosted by the Malaysian Government.

ASM Investment
Fixed deposits are made over a period of 12 months or less. The average effective interest rate weight is 3.86% per annum [2023:4.10% per annum].

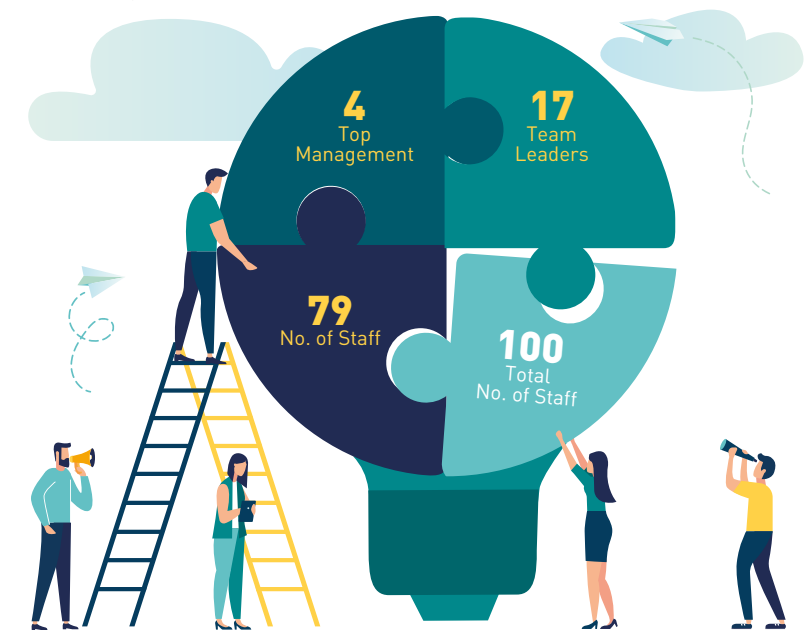
Statement of Financial Performance

ASM recorded a surplus after tax in 2024 amounting to RM196,347 compared to 2023, which recorded a deficit after tax amounting to RM523,747. This shows that the overall expenditure of ASM for the year 2024 is 99%. This is a significant ASM Management improvement in monitoring its operational expenditure.

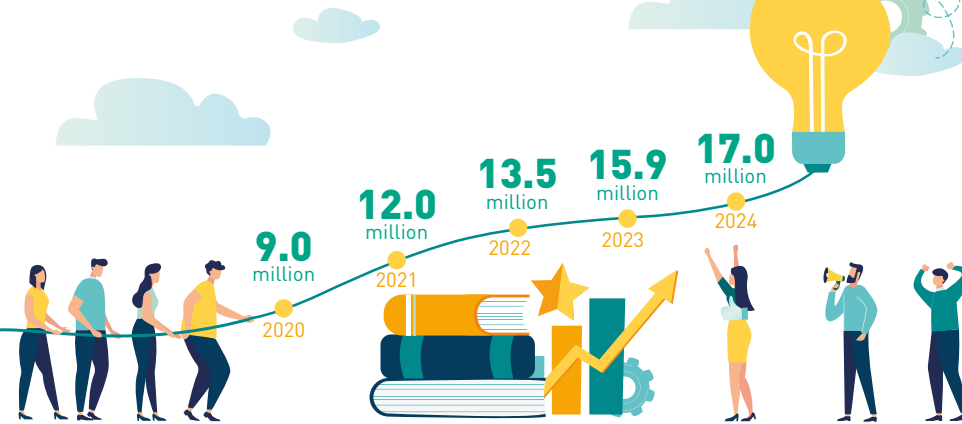
Income (RM)



ASM Management



ASM Operational Grant (RM)



Expenses (RM)



Finance Certificates



**CERTIFICATE OF THE AUDITOR GENERAL
ON THE FINANCIAL STATEMENTS OF
ACADEMY OF SCIENCES MALAYSIA
FOR THE YEAR ENDED 31 DECEMBER 2024**

Certificate on the Audit of the Financial Statements

Opinion

I have authorised a private audit firm pursuant to subsection 7(3) of the Audit Act 1957 [Act 62] to undertake an audit of the Financial Statements of the Academy of Sciences Malaysia. The financial statements comprise the Statement of Financial Position as at 31 December 2024 of the Academy of Sciences Malaysia and the Statement of Financial Performance, Statement of Changes in Net Assets, Statement of Cash Flows and Statement of Comparison Budget and Actual for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, as set out on pages 3 to 34.

In my opinion, the accompanying financial statements give a true and fair view of the financial position of the Academy of Sciences Malaysia as at 31 December 2024, and of its financial performance and its cash flows for the year then ended in accordance with the Malaysian Public Sector Accounting Standards (MPSAS) and the Academy of Sciences Malaysia Act 1994 [Act 524] requirements.

Basis for Opinion

The audit was conducted in accordance with the Audit Act 1957 and the International Standards of Supreme Audit Institutions. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my certificate. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Independence and Other Ethical Responsibilities

I am independent of the Academy of Sciences Malaysia and I have fulfilled my other ethical responsibilities in accordance with the International Standards of Supreme Audit Institutions.

Information Other than the Financial Statements and Auditor's Certificate Thereon

The Council of the Academy of Sciences Malaysia is responsible for the other information in the Annual Report. My opinion on the Financial Statements of the Academy of Sciences Malaysia does not cover the other information than the financial statements and Auditor's Certificate thereon and I do not express any form of assurance conclusion thereon.

Responsibilities of the Council for the Financial Statements

The Council is responsible for the preparation of Financial Statements of the Academy of Sciences Malaysia that give a true and fair view in accordance with the Malaysian Public Sector Accounting Standards (MPSAS) and the Academy of Sciences Malaysia Act 1994 [Act 524] requirements. The Council is also responsible for such internal control as the Council determines is necessary to enable the preparation of the Financial Statements of the Academy of Sciences Malaysia that are free from material misstatement, whether due to fraud or error.

In preparing the Financial Statements of the Academy of Sciences Malaysia, the Council is responsible for assessing the Academy of Sciences Malaysia's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the Financial Statements of the Academy of Sciences Malaysia as a whole are free from material misstatement, whether due to fraud or error, and to issue an Auditor's Certificate that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the International Standards of Supreme Audit Institutions will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with the International Standards of Supreme Audit Institutions, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- a. identify and assess the risks of material misstatement of the Financial Statements of the Academy of Sciences Malaysia, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may

involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;

- b. obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Academy of Sciences Malaysia's internal control;
- c. evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Council;
- d. conclude on the appropriateness of the Council's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Academy of Sciences Malaysia's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my Auditor's Certificate to the related disclosures in the Financial Statements of the Academy of Sciences Malaysia or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of Auditor's Certificate. However, future events or conditions may cause the Academy of Sciences Malaysia to cease to continue as a going concern; and
- e. evaluate the overall presentation, structure and content of the Financial Statements of the Academy of Sciences Malaysia, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

The Council has been informed regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I have identify during the audit.

Other Matters

The Academy of Sciences Malaysia should undertake proactive measure to discuss with the Ministry of Natural Resources and Environmental Sustainability regarding the remaining grant of the Study of Environmental Quality Act amounting to RM769,304 that have shown no movement since 2022 to optimise the utilisation of the remaining grant.

This certificate is made solely to the Council of the Academy of Sciences Malaysia in accordance with the Academy of Sciences Malaysia Act 1994 [Act 524] requirements, and for no other purpose. I do not assume responsibility to any other person for the content of this certificate.



(DATO' SERI WAN SURAYA WAN MOHD RADZI)
KETUA AUDIT NEGARA
MALAYSIA

PUTRAJAYA
:ict APRIL 2025





Academy of Sciences Malaysia

PENYATA PRESIDEN DAN BENDAHARI KEHORMAT AKADEMI SAINS MALAYSIA
STATEMENT BY PRESIDENT AND HONORARY TREASURER OF THE ACADEMY OF SCIENCES MALAYSIA

Kami, **ACADEMICIAN DATUK DR. TENGKU MOHD AZZMAN SHARIFFADEEN TENGKU IBRAHIM FASc** dan **ACADEMICIAN DATIN PADUKA SETIA DATO' DR. AINI IDERIS FASc**, yang merupakan Presiden dan Bendahari Kehormat AKADEMI SAINS MALAYSIA (ASM) dan juga Ahli Majlis, dengan ini menyatakan bahawa, pada pendapat Majlis ASM, Penyata Kedudukan Kewangan, Penyata Prestasi Kewangan, Penyata Perubahan dalam Aset Bersih, Penyata Aliran Tunai dan Penyata Perbandingan Bajet dan Sebenar yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan didalamnya adalah disediakan untuk menunjukkan pandangan yang benar dan saksama berkenaan kedudukan ASM pada 31 Disember 2024 dan hasil kendaliannya serta perubahan kedudukan kewangannya bagi tahun berakhir pada tarikh tersebut.

*We, **ACADEMICIAN DATUK DR. TENGKU MOHD AZZMAN SHARIFFADEEN TENGKU IBRAHIM FASc** and **ACADEMICIAN DATIN PADUKA SETIA DATO' DR. AINI IDERIS FASc** being the President and Honorary Treasurer of the ACADEMY OF SCIENCES MALAYSIA (ASM) as well as Council Members, do hereby declare that, in the opinion of ASM Council, the Statement of Financial Position, Statement of Financial Performance, Statement of Changes in Net Assets, Statement of Cash Flow and Statement of Comparison Budget and Actual together with the notes contained therein are drawn up in order to give a true and fair view of the financial position of ASM as at 31 December 2024 and the resulting revenues and changes in the financial position of the period ending on that date.*

Bagi pihak Majlis
On behalf of the Council

ACADEMICIAN DATUK DR. TENGKU MOHD AZZMAN SHARIFFADEEN TENGKU IBRAHIM FASc
Presiden / President
Akademi Sains Malaysia / Academy of Sciences Malaysia

KUALA LUMPUR, MALAYSIA
Tarikh / Date: **28 MAR 2025**

Bagi pihak Majlis
On behalf of the Council

ACADEMICIAN DATIN PADUKA SETIA DATO' DR. AINI IDERIS FASc
Bendahari Kehormat / Honorary Treasurer
Akademi Sains Malaysia / Academy of Sciences Malaysia



Academy of Sciences Malaysia

PENGAKUAN OLEH KETUA PEGAWAI EKSEKUTIF KE ATAS PENGURUSAN KEWANGAN AKADEMI SAINS MALAYSIA
DECLARATION BY CHIEF EXECUTIVE OFFICER ON THE FINANCIAL MANAGEMENT OF THE ACADEMY OF SCIENCES MALAYSIA

Saya, **HAZAMI BINTI HABIB**, No. K/P: 660619-08-5516 pegawai utama yang bertanggungjawab ke atas pengurusan kewangan dan rekod-rekod perakaunan AKADEMI SAINS MALAYSIA (ASM), dengan ikhlasnya mengakui bahawa Penyata Kedudukan Kewangan, Penyata Prestasi Kewangan, Penyata Perubahan Dalam Aset Bersih, Penyata Aliran Tunai dan Penyata Perbandingan Bajet dan Sebenar dalam kedudukan kewangan yang berikut ini berserta dengan nota-nota kepada penyata kewangan didalamnya mengikut sebaik-baik pengetahuan dan kepercayaan saya, adalah betul dan saya membuat ikrar ini dengan sebenarnya mempercayai bahawa ia adalah benar dan atas kehendak-kehendak Akta Akaun Berkanun, 1960.

*I, **HAZAMI BINTI HABIB**, NRIC No: 660619-08-5516 being the officer primarily responsible for the financial management of the ACADEMY OF SCIENCES MALAYSIA (ASM), do solemnly and sincerely declare that the Statement of Financial Position, Statement of Financial Performance, Statement of Changes in Net Assets, Statement of Cash Flow and Statement of Comparison Budget and Actual together with the notes therein, are the best of my knowledge and belief, correct, and I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Statutory Declarations Act 1960.*

Sebenarnya dan
sesungguhnya diakui oleh
penama di atas di Kuala
Lumpur, Malaysia
Subscribed and solemnly
declared by the abovenamed
at Kuala Lumpur, Malaysia

HAZAMI BINTI HABIB

Tarikh / Date: **28 MAR 2025**



STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2024

	Note	2024 RM	2023 RM <i>As Restated</i>
ASSETS			
Current Assets			
Cash and Bank Balance	3	3,328,150	2,990,455
Fixed Deposit	4	275,405,753	264,399,335
Account Receivables	5	140,898	26,470
Other Receivables	6	764,382	769,369
Total Current Assets		279,638,981	268,185,629
Non-current Assets			
Property, Plant and Equipment	7	3,413,515	3,853,703
Intangible Asset	8	364,000	468,000
Total Non-current Assets		3,777,515	4,321,703
TOTAL ASSETS		283,416,496	272,507,332
LIABILITIES			
Current Liabilities			
Account Payables	10	11,002,485	1,315,269
Employee Benefits	11	390,907	290,526
Advance Received	12	81,061	133,409
Provision for Tax	25	-	43,095
Total Current Liabilities		11,464,453	1,782,299
Non-current Liabilities			
Employee Benefits	11	101,554	78,466
Deferred Grants	13	6,655,863	5,345,140
Deferred Grants - International Office	14	1,050,888	980,963
Deferred Development Grants	15	250,524,853	250,897,924
Total Non-current Liabilities		258,333,156	257,302,493
TOTAL LIABILITIES		269,797,609	259,084,792
NET ASSETS		13,618,887	13,422,540
FUNDED BY:			
NET ASSET/EQUITY			
Accumulated Surplus		13,618,887	13,422,540
TOTAL NET ASSET/EQUITY		13,618,887	13,422,540

The notes on pages 7 to 34 are an integral part of these Financial Statements.

STATEMENT OF FINANCIAL PERFORMANCE

FOR THE YEAR ENDED 31 DECEMBER 2024

	Note	2024 RM	2023 RM <i>As Restated</i>
INCOME			
Non-exchangeable Transactions	16	19,845,500	18,200,825
Exchangeable Transactions	17	1,585,227	1,443,600
TOTAL INCOME		21,430,727	19,644,425
EXPENSES			
Salaries and Wages	18	817,193	779,514
Services and Supplies	19	12,079,440	11,175,900
Science Programme Expenses	20	4,955,500	4,370,210
Contribution and Fixed Charges	21	136,591	140,700
Employee Benefits	22	423,523	349,643
Other Expenses	23	156,625	655,192
Rental	24	1,795,062	1,651,781
Depreciation of Property, Plant and Equipment and Amortisation of Intangible Assets	7 and 8	766,630	869,606
TOTAL EXPENSES		21,130,564	19,992,548
Surplus/(Loss) Before Tax		300,163	(348,123)
Tax	25	103,816	175,624
Surplus/(Loss) After Tax		196,347	(523,747)

STATEMENT OF CHANGES IN NET ASSETS
FOR THE YEAR ENDED 31 DECEMBER 2024

	Note	Accumulated Surplus RM	Total RM
Balance as at 01 January 2023		13,946,287	13,946,287
Loss Income on Expenditure		(519,744)	(519,744)
Prior Year Adjustment	30	(4,003)	(4,003)
As restated		(523,747)	(523,747)
Balance as at 31 December 2023/01 January 2024		13,422,540	13,422,540
Surplus Income on Expenditure		196,347	196,347
Balance as at 31 December 2024		13,618,887	13,618,887

The notes on pages 7 to 34 are an integral part of these Financial Statements.

STATEMENT OF CASH FLOW
FOR THE YEAR ENDED 31 DECEMBER 2024

	2024 RM	2023 RM <i>As Restated</i>
CASH FLOWS FROM OPERATING ACTIVITIES		
Surplus/(Loss) Before Tax	300,163	(348,123)
Adjustment:		
Depreciation of Property, Plant and Equipment	662,630	817,608
Amortisation of Intangible Assets	104,000	52,000
Interest Income from Short Term Deposits and Fixed Deposits	(494,602)	(546,934)
Gain on Disposal of Property, Plant and Equipment	(65)	-
Loss on Disposal of Property, Plant and Equipment	109,982	571,044
Provision for Employee Benefits	429,236	362,136
Surplus from Operation Before Changes in Working Capital	1,111,344	907,731
Decrease/(Increase) in Receivable from Exchangeable Transactions	172,515	(56,796)
Increase/(Decrease) in Payables from Exchangeable Transactions	9,687,216	(80,193)
Decrease in Payables from Advance Received	(52,348)	(253,403)
Employee Benefit Paid	(315,767)	(275,014)
Cash Generated from Operating Activities	10,602,960	242,325
Tax Paid	(186,985)	(112,717)
Tax Refund	20,012	-
Net Cash Generated from Operating Activities	10,435,987	129,608
CASH FLOWS FROM INVESTMENT ACTIVITIES		
Proceeds from Disposal of Property, Plant and Equipment	79	16,056
Purchase of Property, Plant and Equipment	(332,439)	(904,570)
Purchase of Intangible Assets	-	(520,000)
Decrease in Work in Progress	-	581,394
Interest Received	232,911	332,486
Net Cash used in Investment Activities	(99,449)	(494,634)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from Deferred Grant	4,817,330	1,503,225
Repayment of Deferred Grant	(3,506,607)	(5,995,295)
Proceeds from Deferred Grant - International	2,139,521	2,133,046
Repayment of Deferred Grant - International	(2,069,598)	(1,928,279)
Proceeds from Deferred Development Grant	2,865,000	254,050,000
Repayment of Deferred Development Grant	(3,238,071)	(3,200,099)
Net Cash from Financing Activities	1,007,575	246,562,598

The notes on pages 7 to 34 are an integral part of these Financial Statements.

STATEMENT OF CASH FLOW (CONT.)
FOR THE YEAR ENDED 31 DECEMBER 2024

	2024 RM	2023 RM <i>As Restated</i>
INCREASE IN CASH AND CASH EQUIVALENTS	11,344,113	246,197,572
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE FINANCIAL YEAR	267,389,790	21,192,218
CASH AND CASH EQUIVALENTS AT THE END OF THE FINANCIAL YEAR	278,733,903	267,389,790
CASH AND CASH EQUIVALENTS:		
Fixed Deposit	275,405,753	264,399,335
Cash and Bank Balance	3,328,150	2,990,455
	278,733,903	267,389,790

STATEMENT OF COMPARISON BUDGET AND ACTUAL
FOR THE YEAR ENDED 31 DECEMBER 2024

	Total Budget		Total Actual	Variance
	Initial 2024 RM	Final 2024 RM	2024 RM	Budget 2024 RM
RECEIPTS				
Non-exchangeable Transactions				
Government Grant	15,000,000	15,000,000	15,000,000	-
EXPENSES				
Salaries and Wages	827,985	827,985	817,193	10,792
Services and Supplies	13,408,086	13,408,086	13,242,726	165,360
Contribution and Fixed Charges	518,444	518,444	493,420	25,024
Other Expenses	245,485	245,485	190,992	54,493
	15,000,000	15,000,000	14,744,331	255,669
NET RECEIPTS	-	-	255,669	255,669

The notes on pages 7 to 34 are an integral part of these Financial Statements.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED ON 31 DECEMBER 2024

1 GENERAL INFORMATION

a) ASM Establishment and Main Objectives

The Academy of Sciences Malaysia (ASM) was established under the Academy of Sciences Malaysia Act 1994 (Act 524). The objective of ASM is to pursue, encourage and enhance excellence in the fields of Science, Engineering, and Technology (SET) for the development of the nation and benefit of mankind.

b) Functional Currency for Financial Statements

The financial statements is presented in Malaysian Ringgit ("RM") which is the functional and presentation currency of ASM. Thus, all financial information is presented in RM.

c) Date of Approval of Financial Statements

ASM Financial Statements for the year ended on 31 December 2024 was approved by ASM Council on 28 March 2025.

2 ACCOUNTING POLICIES

a) Basis of Preparation of Financial Statements

The Financial Statements of ASM is prepared under the conventional historical cost in compliance with the Malaysian Public Sector Accounting Standards (MPSAS).

The preparation of financial statements requires judgments, estimates, and assumptions that affect the use of policies and the reported amounts of assets, liabilities, revenues, and expenses.

Estimates and assumptions used will be reviewed on an ongoing basis. Revision to accounting estimates will be recognised in the revised accounting period if the revision affects that period, or the period in review and future periods if the revision affects the current and future periods.

Where these judgments, estimates, and assumptions have significant impact on the amounts recognised in the financial statements, they will be disclosed in Note 2(p) Critical Accounting Considerations and Sources of Estimation Uncertainty in the financial statements.

2 ACCOUNTING POLICIES (CONT.)

b) Income Recognition

Income from Non-exchangeable Business Transactions

Non-exchangeable business transactions will be recognised as assets when there are future economic benefits expected to flow to the entity as a result of historical event and the cost or value of the asset can be measured reliably. Non-exchangeable business transactions recognised as assets shall be recognised as income except when there is a liability that is also being recognised for the same transaction as a delayed transaction in the financial statements. When the obligations towards liabilities are met, the entity shall reduce the liabilities amount and recognise the income amount as equivalent to the amount reduced.

Income from non-exchangeable business transactions are as follows:

i. Government Grants

Government grants which are not subjected to certain future performance conditions such as the operating grant are recognised as income in the financial statements. Government grants subject to certain future performance conditions such as development grants are recognised as deferred grants to be amortised as income with the liability valued at its carrying amount. Grants are amortised on a straight-line basis over their estimated useful life.

ii. Donation

Donations which are not subjected to certain future performance conditions are recognised as income in the financial statements. Funds subject to certain future performance conditions are recognised as liabilities to be amortised as an income with the liability valued at its carrying amount. Funds are amortised on a straight-line basis over their estimated useful lives.

Income from Exchange Transactions

Income from exchange transactions are recognised when there are possibilities for the future economy expected to flow to the entity and the benefits can be measured reliably.

Income from exchange transactions are as follows:

i. Income Derived from Interest and Other Investment

Income derived from fixed deposits are recognised based on current exchange rates taking into consideration of an effective return of investment. The rate of return of investment on asset is the profit rate required to discount the future cash inflow expectation throughout the life expectancy of the respective asset to be equalised with the brought forward value of the asset.

Income derived from interest gained from conventional deposits and investments are recognised on accrual basis.

2 ACCOUNTING POLICIES (CONT.)

b) Income Recognition (Cont.)

Income from Exchange Transactions (Cont.)

ii. Other Revenue/Income

Other incomes are recognised when services are provided.

c) Property, Plant and Equipment

Property, Plant and Equipment are stated at cost less accumulated depreciation and impairment losses. Cost includes all of the direct costs to bring the asset to working condition for its intended use by the management. The cost of replacement of any asset that requires replacement at regular intervals will be capitalised. The carrying amount of those parts replaced will be derecognised in accordance with derecognition provision. The cost of day-to-day servicing will be recognised as an expense in the financial statement.

Property, plant and equipment that is valued at RM2,000 and above or in need of regular maintenance will be capitalised as property, plant and equipment.

If an asset is acquired through a non-exchange transaction, the cost should be measured at its fair value as of the acquisition date. These assets will be recognised in the financial statements unless there is a condition for the use of the asset, current liability will be recognised.

The carrying value of property, plant and equipment items should be derecognised at disposal or when no future economic benefits or potential services are expected from their use or disposal.

The gain or loss on the derecognition of property, plant and equipment is the difference of the proceeds and the carrying amount of the asset and its differences are recognised as profit or loss in the financial statements.

The initial cost of ASM building at Jalan Tun Ismail assessed in 2017 was RM3,399,000. However, a revaluation done by the *Jabatan Penilaian dan Perkhidmatan Harta (JPPT)* on the same building on 20 April 2021 recorded a new valuation cost of RM2,170,000.

Depreciation for property, plant and equipment are calculated based on a straight-line basis over their accumulated useful life at the following rates:-

Building	60 years
Motor Vehicle	5 years
Office Equipment	5 years
Computer	5 years
Telecommunication	5 years
Office Renovation – Jalan Tun Ismail	10 years
Office Renovation – MATRADE	3 years

2 ACCOUNTING POLICIES (CONT.)

c) Property, Plant and Equipment (Cont.)

Full depreciation is charged in the year of purchase of property, plant and equipment. The net balance of each property, plant and equipment should not be less than RM1. If there are significant changes in the factors that affects the residual value, changes in the expected useful life or pattern of consumption of benefits since the last financial year, the carrying amount, depreciation method and the useful life of the asset will be reviewed and adjusted prospectively.

Work in progress consists of work involving property and equipment that was not completed until the end of the current financial year. Work in progress is stated at cost and is not depreciated until the asset is ready for use.

d) Intangible Asset

Intangible asset is a non-financial asset that is not physical in nature and has no shape or form such as a patent, brand, trademark, or copyright. Types of intangible assets include copyrights, licenses, patents and intellectual property. Intangible asset is calculated based on the straight-line basis and is amortised at the following rate:-

Database	5 years
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e) Impairment of Non-financial Assets

i. Cash Generating Assets

At each reporting date, ASM assesses the carrying value of its assets to determine whether there is any indication of impairment. If any indication exists, impairment is calculated by comparing the carrying amount of the asset with its recoverable amount. Recoverable amount is the highest value of the asset's fair value less costs to sell and its value in use.

In determining value in use, future cash flows are discounted to their present value using a pre-tax discount rate that reflects the current market value and specific risks associated with the asset. In determining fair value less costs to sell, most recent market transactions will be considered, if any. If there are no recent market transactions, an appropriate valuation model should be used.

An impairment loss is recognised as an expense on an ongoing surplus or deficit when the carrying amount of an asset exceeds its recoverable amount unless the asset is carried at revalued amount. Any impairment loss on a revalued asset will be reduced to the extent that the revaluation surplus is not used for the same asset.

2 ACCOUNTING POLICIES (CONT.)

e) Impairment of Non-financial Assets (Cont.)

ii. Non-cash Generating Assets

ASM will evaluate at each reporting date whether there is any indication that a non-cash-generating asset may be impaired. If any indication exists, then ASM will make an estimate of the total asset recovery service. The asset's recoverable amount is the highest of its fair value less costs to sell and value in use.

An impairment loss is recognised as a reduction in its surplus or as an expense when the carrying amount of an asset exceeds its recoverable amount.

In determining value in use, ASM has adopted depreciated replacement cost approach. Under this approach, the present value of the asset's remaining balance potential is determined as the cost of replacing the depreciated asset. Depreciation expense will be measured by taking into account the cost of replacement of the asset less accumulated depreciation calculated on that cost to reflect the potential use of the asset that has been used or expired.

In determining fair value less costs to sell, the price of an asset in a binding agreement in an arm's length transaction is adjusted to determine the disposal price of the asset. If no binding agreement exists, but the asset is actively traded on the market, the fair value of the cost of the sale is determined by reference to the current market value less the cost of disposal. If there is no binding sale agreement or active market for the asset, ASM determines the fair value less costs to sell based on the best available information.

For each asset, an assessment is made at each reporting date as to whether there is any indication that previously recognised impairment losses may no longer exist or have diminished. If such an indication exists, ASM estimates the amount of asset's recoverable service amount. The previously recognised impairment loss will be reversed only if there has been a change in the assumptions used to determine the amount of the asset's recoverable service since the last impairment loss was recognised. A reversal is limited to the carrying amount of the asset not exceeding the recoverable amount of the service, or the carrying value of the asset net of depreciation and had no impairment loss being recognised for the asset in prior years.

f) Financial Assets

Financial assets are recognised in the financial statements when ASM participates in the contractual provisions of the instrument.

In the initial recognition, financial assets are measured at fair value, including transaction costs for financial assets that are not measured at fair value through profit or loss which are directly attributable to the issuance of financial assets.

Following initial recognition, financial assets will be classified into one of four categories of financial assets, namely financial assets measured at fair value through profit or loss, loans and receivables, held-to-maturity investments and ready-to-sell financial assets.

2 ACCOUNTING POLICIES (CONT.)

f) Financial Assets (Cont.)

The purchase or sale of a financial asset that requires the surrender of the asset within the time frame stipulated by the rules or conventions in the market will be recognised on the date the transaction is made, which is the date on which ASM makes a commitment to buy or sell the asset.

ASM has only the following financial asset categories:

i. Loans and Receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in the active market. After the initial measurement, the financial assets are subsequently measured at amortised cost using the effective interest method and less impairment. An amortised cost is calculated using any discount or premium on the purchase of the asset as well as fees or costs that are part of the effective interest rate. Losses arising on impairment are recognised in the profit or loss.

ii. Held-to-maturity Investments

Non-derivative financial assets with fixed or determinable payments maturity and are classified as held for maturity when ASM has a positive intention and ability to hold to maturity. After initial measurement, the holding to maturity of the investment is measured at amortised cost using the effective interest method and less impairment. The amortisation cost is calculated taking into account any discount or premium on the acquisition and fees or costs that are part of the effective interest rate. Impairment losses are recognised in the financial statements.

iii. Impairment of Financial Assets

At the end of each reporting period, ASM will evaluate whether there is any objective evidence that the financial assets need to be impaired. Objective evidence includes:

- significant financial difficulties by borrowers; or
- payment in arrears; or
- the possibility that the borrower will go bankrupt; or
- data indicating decline in future cash flow estimates.

For a financial asset category that is measured at amortised cost, if no objective evidence exists for a significant individual, then all assets in ASM with similar risk characteristics regardless of whether they are significant, will be evaluated collectively to determine whether it needs to be impaired.

2 ACCOUNTING POLICIES (CONT.)

f) Financial Assets (Cont.)

iii. Impairment of Financial Assets (Cont.)

An impairment loss, in respect of a financial asset measured at amortised cost, is measured as the difference between the carrying amount of the asset and its present value of estimated cash flow at the original effective interest rate. The carrying value of the asset is reduced through the use of an allowance account. Any impairment loss is recognised in profit or loss immediately. If, at any time, circumstances that led to the impairment no longer exist, the previously recognised impairment loss will be reversed directly in the allowance account. This reversal is recognised in the profit or loss immediately.

iv. Derecognition of Financial Assets

Financial assets are derecognised when the contractual right to cash flow from the financial assets expires or is settled and ASM transfers significant risks and rewards of ownership of the financial assets to another.

On the derecognition of financial assets as a whole, the difference between the carrying amount and the amount of consideration received is recognised in the surplus or deficit during the period of the derecognition.

g) Cash and Cash Equivalents

The cash flow statement was prepared using the indirect method. Cash and cash equivalents consist of cash in hand and cash at banks as well as high-risk investments with licensed banks and financial institutions with 12-month or less maturity that are readily convertible to known amounts of cash which are subject to an insignificant risk of changes in value.

h) Employee Benefits

i. Short Term Employee Benefits

In general, ASM as a Federal Statutory Body is guided by the Public Service Department (JPA)'s employment regulations adopted by ASM and ASM's own policies. The short-term employee benefits provided are basic salaries, fixed allowances, non-fixed allowances, and various leaves including annual leave, medical benefits and insurance.

2 ACCOUNTING POLICIES (CONT.)

h) Employee Benefits (Cont.)

ii. Paid Leave and Compensation for Employees (Cont.)

Contract Employees

ASM pays gratuity for each Contract of Service (CoS) according to the terms and conditions of the respective contract. ASM CoS employees are paid in lieu of leave (GCR) up to 6-days within a contract period. Remuneration and GCR payments for contract employees are in accordance with the terms and conditions set out in the civil service circular.

i) Contra of Financial Instrument

Financial assets and financial liabilities are to be contra if, and only if, there is a legal right to offset them and have the purpose of settling them to their net worth or to realise the assets and settle the liabilities simultaneously.

j) Budget Information

The annual budget is prepared on a cash basis. As the financial statements are prepared on an accrual basis, a Budget and Actual Comparison Statement is disclosed separately. The statement is prepared using the basis of the annual budget prepared and only refers to the operational budget. The budget presented is for ASM's reference and was approved by ASM Council.

k) Provisions and Liabilities

Provisions are recognised when ASM has current (legal or constructive) obligations as a result of past events, and it is probable that an outflow of resources containing economic benefits will be required to settle the obligation and that the amount of the obligation can be estimated reliably. When ASM expects some or all of the provision to be repaid, the allocation-related expenses are presented in excess of or deductible from any refund.

l) Related Parties

ASM regards a related party as a person or entity with the ability to exercise control individually or collectively or to exercise significant influence over ASM, or vice versa. ASM Management's key employees, President and members of the ASM Council are considered as related parties.

2 ACCOUNTING POLICIES (CONT.)

m) Contingent Liabilities and Contingent Assets

A contingent liability is an unrecognised current obligation as there is no probable source of outflow to resolve the obligation or in the rare case where the liability cannot be recognised because it cannot be reliably measured. Contingent liabilities are not recognised but are disclosed in the financial statements. Obligations arising from past events, whose existence can only be confirmed by the occurrence or non-occurrence of one or more uncertain events, are not under the control of the entire ASM, also disclosed as contingent liabilities unless the probability of an outflow of economic resources is small.

Contingent assets are assets that may arise from past events whose existence will only be confirmed in the event of the occurrence or the occurrence of one or more uncertain events in the future that are not within the control of ASM. ASM does not recognise contingent assets in the financial statements but discloses their existence where inflows of economic benefits are possible, but not certain.

n) Financial Liabilities

Financial liabilities are recognised in the statement of financial position when ASM is a party to the contractual provisions of the instrument.

In the initial recognition, financial liabilities are measured at fair value, including transaction costs for financial liabilities that are not measured at fair value through profit or loss, which are directly attributable to the issue of financial liabilities.

Following initial recognition, financial liabilities are classified into two categories of financial liabilities, namely financial liabilities measured at fair value through surplus or borrowings, loans and payables.

ASM has the following categories of financial liabilities:

Loans and Repayments

After initial recognition, loans and repayments are measured at amortised cost using the effective interest method. Gains or losses are recognised in profit or loss when financial liabilities are derecognised or impaired.

Effective interest rates are a method of calculating the cost of amortising financial liabilities and to allocate interest expense over the relevant period. The effective interest rate is the discounted rate of estimated future cash payments due to the existence of a financial liability or, where appropriate, the shorter term, with the carrying amount of the financial liability.

A financial liability is derecognised when the obligation specified in the contract has been discharged, canceled or expired.

Any discrepancy between the carrying amount of the deferred financial liability and the consideration paid is recognised in the surplus or deficit during the period of the derecognition.

2 ACCOUNTING POLICIES (CONT.)

o) Lease

Leases of property, plant and equipment are classified as finance leases when most of the risks and rewards of ownership of property, but not legal ownership, are transferred to ASM.

ASM initially recognises the right to use and its obligations under finance leases as assets and liabilities in the statement of financial position at an amount equal to the fair value of the leased asset or, if less, the present value of the minimum lease payments, determined at the beginning of the lease. Any initial direct costs are added to the amount recognised as an asset.

Minimum lease payments are divided between finance charges and the reduction of outstanding liabilities using the effective interest method. Monetary charges are allocated periodically throughout the lease term to generate a fixed-term interest rate on the balance of the liability.

The depreciation policy for a leasehold asset is consistent with the depreciable assets. If there is no reasonable assurance that ASM will acquire ownership by the end of the lease term, the leased asset will be fully depreciated over the term of the lease and its useful life. At each reporting date, ASM assesses whether the leasehold assets under finance lease are impaired.

Operating leases are recognised as an expense in the profit or loss on a straight-line basis over the lease term. The aggregate benefit of incentives provided by the lender is recognised as a reduction of rent expense over the lease term using the straight-line method.

p) Critical Accounting Considerations and Sources of Estimation Uncertainty

i. Critical Accounting Considerations

There are no critical accounting judgments that have material impact on the amounts recognised in the financial statements.

ii. Sources of Estimation Uncertainty

The key estimates of the future, and other key sources of budget uncertainty as of the reporting date, are significant risks that will result in significant adjustments to the carrying values of assets and liabilities in the next financial year.

2 ACCOUNTING POLICIES (CONT.)

p) Critical Accounting Considerations and Sources of Estimation Uncertainty (Cont.)

ii. Sources of Estimation Uncertainty (Cont.)

Impairment Loss on Accounts Receivable

ASM evaluates at each reporting date whether there is any objective evidence that financial assets are impaired. To determine whether there is objective evidence of impairment, ASM considers factors such as insolvency and default or delay in payment. Where there is objective evidence of impairment, the amount and timing of future cash flows are estimated based on a history of loss experience for assets with similar credit risk characteristics.

Changes in Estimated Life Expectancy for Property, Plant and Equipment

All property, plant and equipment are depreciated on a straight-line basis over the life of the asset. Management estimates the life expectancy of property, plant and equipment over a period of five (5) to sixty (60) years. Changes in the estimation of asset usage patterns and technology development can impact the life and residual value of those assets. This will result in a change of depreciation of the asset in the future.

q) Tax

The income tax expense of a controlled entity recognised in the statement of financial performance comprises current and deferred tax. Current tax is the expected amount of income tax payable in respect of the taxable profit for the year and is calculated using tax rates that have been enacted or substantively enacted by the reporting date.

Tax payable on taxable profits for the current and past periods is recognised in the current liability to the extent that it is unpaid. If the amount paid in respect of the current and past periods exceeds the amount due for that period, the excess is recognised in current assets.

Current tax liabilities and assets are offset only when ASM has a legally valid right to offset the amount and intends to either settle on a net basis, or realise the asset and settle the liability simultaneously.

Deferred tax is provided using the liability method, on temporary differences at the statement of financial position date between the tax bases of assets and liabilities and their carrying amounts in the financial statements. In principle, a deferred tax liability is recognised for all taxable temporary differences. Deferred tax assets are recognised for deductible temporary differences, unutilised tax losses and unused tax credits to the extent that it is probable that future taxable profits will be available against which it can be utilised. Deferred tax is not recognised if the temporary difference arises from goodwill, negative goodwill or from the initial recognition of an asset or liability in a transaction that is not a business combination, and at the time of the transaction, does not affect accounting profit or taxable profit.

2 ACCOUNTING POLICIES (CONT.)

q) Tax

Deferred tax is measured at the tax rates that are expected to apply in the period in which the asset is realised or the liability is settled, based on tax rates that have been enacted or substantively enacted at the reporting date. Deferred tax is recognised in the statement of financial performance, except when it arises from a transaction that is recognised directly in equity or when it arises from a business combination that is an acquisition, in which deferred tax is included in the goodwill and negative goodwill.

3 CASH AND BANK BALANCE

	2024 RM	2023 RM
Cash in Hand	4,763	4,342
Cash at Bank	<u>3,323,387</u>	<u>2,986,113</u>
	<u>3,328,150</u>	<u>2,990,455</u>

4 FIXED DEPOSIT

	2024 RM	2023 RM
ASM Fixed Deposit	15,302,082	14,399,335
Malaysia Science Endowment (MSE) Fixed Deposit	<u>260,103,671</u>	<u>250,000,000</u>
	<u>275,405,753</u>	<u>264,399,335</u>

Fixed deposits are made over a period of 12 months or less depending on ASM's immediate cash requirements and benefit at Short Term Deposit Rates. The ASM's Average Effective Interest Rate Weight as at 31 December 2024 is 3.75% per annum (2023: 3.87% per annum) and MSE's Average Effective Interest Rate Weight as at 31 December 2024 is 3.57% per annum (2023: 4.12% per annum).

Malaysia Science Endowment (MSE) is a grant received amounting to RM 50,000,000.

ASM has been appointed as the Implementation Agency of MSE by Parliament under the purview of the Ministry of Science, Technology and Innovation (MOSTI) on 4 August 2022. As the Implementation Agency of MSE, ASM is required to raise and manage alternative funds for MSE.

ASM places these principal funds in fixed deposits and the accumulated gain of investment is managed separately on behalf of the government amounted RM10,241,348 (2023: RM113,150).

5 ACCOUNT RECEIVABLES

	2024 RM	2023 RM
Receivables	<u>140,696</u>	<u>26,470</u>
	<u>140,696</u>	<u>26,470</u>

Accounts Receivable are interest-free and generally range from one to 30 days. Accounts Receivable are recognised at fair value at the time of initial recognition. The amount expected to be recovered within 12 months will be recognised on the original invoice amount. Otherwise, it will be recognised on the current value of the original invoice amount.

Analysis of account receivable aging is as follows:

	2024 RM	2023 RM
Does not exceed duration and is not affected 1 to 3 months	<u>140,696</u>	<u>26,470</u>
	<u>140,696</u>	<u>26,470</u>

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6 OTHER RECEIVABLES

	2024 RM	2023 RM <i>As Restated</i>
Prepayment	426,108	416,064
Current tax asset	20,062	-
Accrued Income	56,521	138,857
Accrued Interest	<u>261,091</u>	<u>214,448</u>
	<u>764,382</u>	<u>769,369</u>

7 PROPERTY, PLANT AND EQUIPMENT

	As at 01 January 2024 RM	Additions RM	Disposal/ Transfer RM	As at 31 December 2024 RM
COST				
Building	2,170,000	-	-	2,170,000
Motor Vehicle	911,158	10,385	-	921,543
Office Equipment	1,151,467	266,348	(59,179)	1,358,636
Computer	859,336	55,706	(155,529)	759,513
Telecommunication	4,699	-	-	4,699
Office Renovation - Jalan Tun Ismail	4,686,936	-	-	4,686,936
Office Renovation - Matrade	<u>539,016</u>	<u>-</u>	<u>-</u>	<u>539,016</u>
	<u>10,322,612</u>	<u>332,439</u>	<u>(214,708)</u>	<u>10,440,343</u>

	As at 01 January 2024 RM	Additions RM	Disposal/ Transfer RM	As at 31 December 2024 RM
ACCUMULATED DEPRECIATION				
Building	434,000	36,167	-	470,167
Motor Vehicle	417,660	129,068	-	546,728
Office Equipment	810,698	123,376	(59,162)	874,912
Computer	472,506	113,553	(45,549)	540,510
Telecommunication	705	939	-	1,644
Office Renovation - Jalan Tun Ismail	3,944,051	109,801	-	4,053,852
Office Renovation - Matrade	<u>389,289</u>	<u>149,728</u>	<u>-</u>	<u>539,015</u>
	<u>6,468,909</u>	<u>662,630</u>	<u>(104,711)</u>	<u>7,026,828</u>

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7 PROPERTY, PLANT AND EQUIPMENT (CONT.)

	As at 31 December 2024 RM			
NET CARRYING AMOUNT				
Building	1,699,833			
Motor Vehicle	374,815			
Office Equipment	483,724			
Computer	219,003			
Telecommunication	3,055			
Office Renovation - Jalan Tun Ismail	633,084			
Office Renovation - Matrade	1			
	<u>3,413,515</u>			
	As at 01 January 2023 RM	Additions RM	Disposal/ Transfer RM	As at 31 December 2023 RM
COST				
Building	2,170,000	-	-	2,170,000
Motor Vehicle	662,579	396,880	(148,301)	911,158
Office Equipment	926,794	252,348	(27,675)	1,151,467
Computer	1,439,023	209,629	(789,316)	859,336
Telecommunication	-	4,699	-	4,699
Office Renovation - Jalan Tun Ismail	4,645,922	41,014	-	4,686,936
Office Renovation - Matrade	539,016	-	-	539,016
	<u>10,383,334</u>	<u>904,570</u>	<u>(965,292)</u>	<u>10,322,612</u>
	As at 01 January 2023 RM	Additions RM	Disposal/ Transfer RM	As at 31 December 2023 RM
ACCUMULATED DEPRECIATION				
Building	397,834	36,166	-	434,000
Motor Vehicle	470,658	95,302	(148,300)	417,660
Office Equipment	730,730	107,636	(27,668)	810,698
Computer	386,458	288,272	(202,224)	472,506
Telecommunication	-	705	-	705
Office Renovation - Jalan Tun Ismail	3,834,196	109,855	-	3,944,051
Office Renovation - Matrade	209,617	179,672	-	389,289
	<u>6,029,493</u>	<u>817,608</u>	<u>(378,192)</u>	<u>6,468,909</u>

7 PROPERTY, PLANT AND EQUIPMENT (CONT.)

	As at 31 December 2023 RM
NET CARRYING AMOUNT	
Building	1,736,000
Motor Vehicle	493,498
Office Equipment	340,769
Computer	386,830
Telecommunication	3,994
Office Renovation - Jalan Tun Ismail	742,885
Office Renovation - Matrade	<u>149,727</u>
	<u>3,853,703</u>

8 INTANGIBLE ASSET

	2024 RM	2023 RM
COST		
As at 1 January	520,000	-
Additional	-	520,000
As at 31 December	<u>520,000</u>	<u>520,000</u>
AMORTISATION		
As at 1 January	52,000	-
Additional	104,000	52,000
As at 31 December	<u>156,000</u>	<u>52,000</u>
NET CARRYING AMOUNT	<u>364,000</u>	<u>468,000</u>

9 WORK IN PROGRESS

	2024 RM	2023 RM
Balance as at 01 January	-	581,304
Capitalised as Property, Plant and Equipment	-	(140,394)
Capitalised as Intangible Assets	-	(441,000)
Balance as at 31 December	<u>-</u>	<u>-</u>

10 ACCOUNT PAYABLES

	2024 RM	2023 RM <i>As Restated</i>
Accruals	761,137	1,169,752
Wakalah Zakat	-	12,367
Deposit Received	-	20,000
	<u>761,137</u>	<u>1,202,119</u>
Interest of Malaysia Science Endowment (MSE)	10,241,348	113,150
	<u>11,002,485</u>	<u>1,315,269</u>

ASM has been appointed as the Implementation Agency of MSE by Parliament under the purview of the Ministry of Science, Technology and Innovation (MOSTI) on 4 August 2022. As the Implementation Agency of MSE, ASM is required to raise and manage alternative funds for MSE.

ASM places these principal funds in fixed deposits and the accumulated gain of investment is managed separately on behalf of the government.

11 EMPLOYEE BENEFITS

	2024 RM	2023 RM
Balance as at 01 January	368,992	281,870
Add : Employee Benefit for the Year	429,236	362,136
Deduct : Employee Benefit Paid During the Year	(315,767)	(275,014)
Balance as at 31 December	<u>482,461</u>	<u>368,992</u>
	2024 RM	2023 RM
Current Liabilities	380,907	290,526
Non-current Liabilities	<u>101,554</u>	<u>78,466</u>
	<u>482,461</u>	<u>368,992</u>

12 ADVANCE RECEIVED

	2024 RM	2023 RM
Balance at 01 January	133,409	386,812
Income	30,718	400,985
Programme Management Charges	-	(60,690)
Surplus from Project	-	(61,822)
Purchase of Asset	-	(3,300)
Expenditure	<u>(83,066)</u>	<u>(528,576)</u>
Balance as at 31 December	<u>81,061</u>	<u>133,409</u>

12 ADVANCE RECEIVED (CONT.)

The breakdown of advance received are as follows:

	2024 RM	2023 RM
Non-Radioactive Rare Earths Industry (NRREE)	70,561	122,909
Position Paper on New Horizon for STI (NHSTI)	<u>10,500</u>	<u>10,500</u>
	<u>81,061</u>	<u>133,409</u>

Advance Received is an allocation received by ASM for its role as a strategic partner and/or service provider for a project. The allocation received includes sponsorship from corporate or organizations. The project is either implemented as ASM programme or as a collaborative project where the specification is determined by the funding organisation. In this aspect, ASM is bound by the terms of reference and duration of the programme as outlined in the agreement or letter of appointment.

13 DEFERRED GRANT

	2024 RM	2023 RM
Balance as at 01 January	5,345,140	9,837,210
Additions	4,837,330	1,503,225
Return of Allocation	(159,626)	(150,704)
Programme Management Charges	(843,328)	(232,284)
Adjustments	(20,000)	-
Purchase of Asset	-	(79,000)
Expenditure	<u>(2,503,653)</u>	<u>(5,533,307)</u>
Balance as at 31 December	<u>6,655,863</u>	<u>5,345,140</u>

Deferred grants are provisions received from the Malaysian Government for a specific purpose. ASM is bound by the terms of reference and duration of the programme as outlined in the agreement or letter of appointment.

Deferred grants are analysed as follows:

	2024 RM	2023 RM
Non-current Liabilities	<u>6,655,863</u>	<u>5,345,140</u>
	<u>6,655,863</u>	<u>5,345,140</u>

13 DEFERRED GRANT (CONT.)

The breakdown of the deferred grant allocation are as follows:

	2024 RM	2023 RM
Unamortised Grants		
Malaysian Collaborative Network Platform for Disruptive Innovation (i-CONNECT)	1,427,176	1,509,016
Strategic Research Fund (SRF-APP) – Fintech in Islamic Finance	945,443	56,354
Strategic Research Fund (SRF-APP) – Halal Supply Chain	136,858	652,358
Strategic Research Fund (SRF-APP) – Digital Healthcare and Wellness	626,541	35,913
MOE Studies	128,405	128,405
Development of RDCIE Roadmap	-	181,046
	<u>3,264,423</u>	<u>2,563,092</u>
Amortised Grants		
Study on Environmental Quality Act	769,304	769,304
Water Sector Transformation 2040 (WST 2040)	1,150,092	2,012,744
National Education Reform	1,245,497	-
Malaysia Blue Economy Blueprint	76,547	-
National RDCIE Action Plan	150,000	-
	<u>3,391,440</u>	<u>2,782,048</u>
TOTAL DEFERRED GRANTS	<u>6,655,863</u>	<u>5,345,140</u>

14 DEFERRED GRANT – INTERNATIONAL OFFICE

	2024 RM	2023 RM
Balance as at 01 January	980,963	776,196
Additions	2,139,521	2,133,046
Purchase of Asset	-	(48,678)
Expenditure	(2,069,598)	(1,879,601)
Balance as at 31 December	<u>1,050,886</u>	<u>980,963</u>

Deferred grants are analysed as follows:

	2024 RM	2023 RM
Non-current Liabilities	<u>1,050,886</u>	<u>980,963</u>
	<u>1,050,886</u>	<u>980,963</u>

14 DEFERRED GRANT – INTERNATIONAL OFFICE (CONT.)

The breakdown of the deferred grant allocation are as follows:

	2024 RM	2023 RM
ISC ROAP	-	139,321
ISTIC 3.0	1,050,886	823,021
UNESCO	-	18,621
	<u>1,050,886</u>	<u>980,963</u>

International Science Council Regional Office for Asia and the Pacific (ISC ROAP)

	2024 RM	2023 RM
Balance as at 01 January	139,321	776,196
Expenditure	(139,321)	(636,875)
Balance as at 31 December	<u>-</u>	<u>139,321</u>

The International Science Council (ISC) works at the global level to catalyse and convene scientific expertise, advice and influence on issues of major concern to both science and society. The ISC was launched in 2018 following a merger of the International Council for Science (ICSU), which was created in 1931, and the International Social Science Council (ISSC), created in 1952.

International Science, Technology and Innovation Centre (ISTIC)

	2024 RM	2023 RM
Balance as at 01 January	823,021	-
Additions	2,139,521	2,012,803
Transfer from UNESCO project	18,621	-
Purchase of Asset	-	(48,678)
Expenditure	(1,930,277)	(1,141,104)
Balance as at 31 December	<u>1,050,886</u>	<u>823,021</u>

ISTIC is UNESCO Category II Centre hosted by the Malaysian Government since 26 March 2009. The Malaysian Government and UNESCO has agreed to renew the agreement to host ISTIC for another six (6) years which will end in 2027. In relation to this, ASM, as the host representing the Malaysian Government, has also signed a separate agreement with UNESCO. The operational cost and programmes of ISTIC is funded by the Malaysian Government through ASM operating grant.

ISTIC aims to contribute toward the objectives of UNESCO's strategic programme in particular promoting the interface between science, society and ethical inclusive policies for sustainable development and strengthening STI policies and engagement with society; capacity building in science and technology through providing policy advice and exchange of experience and best practices; foster cooperation among governments, academia and industry in order to facilitate the transfer of knowledge between the public and private sectors; conduct research and make available knowledge, including through open science and potential new technologies; and develop networks and collaborative research and development (R&D) and training programmes at regional and international level as well as facilitate the exchange and dissemination of information.

15 DEFERRED DEVELOPMENT GRANT

	2024 RM	2023 RM
Balance as at 01 January	250,897,924	48,023
Additions	2,865,000	254,050,000
Amortisation to the Financial Statements	-	(103,205)
Assets	(3,238,071)	(3,096,894)
Expenses	250,524,853	250,897,924
Balance as at 31 December		

Development Grant is an allocation for studies or projects under the five-year Malaysian Plan (MP) approved by the Economic Planning Unit (EPU) of the Prime Minister's Department, MOSTI and the Ministry of Finance (MOF).

Deferred development grants are analysed as follows:

	2024 RM	2023 RM
Non-current Liabilities	250,524,853	250,897,924
	250,524,853	250,897,924

The breakdown of the deferred grant allocation are as follows:

	2024 RM	2023 RM
Digitalisation and Internet of Things (IoT) Programme for Biodiversity	19,745	125,700
National Planetary Health Action Plan (NPHAP)	494,540	497,663
Wireless Bridging System	10,568	274,561
Malaysia Science Endowment (MSE)	250,000,000	250,000,000
	250,524,853	250,897,924

16 NON-EXCHANGEABLE TRANSACTIONS

	2024 RM	2023 RM
Operating Grant	15,000,000	13,938,200
Amortisation of Deferred Grant	1,202,813	714,593
Amortisation of Deferred Grant – International Office	-	48,678
Amortisation of Deferred Development Grant	3,238,071	3,200,099
Other Income:		
Donation Fund	400,000	200,000
Office Rental Charges	-	80,000
Refund from programme	-	15,547
Reversal of Expenses	2,828	124
Refund from Insolvency	1,788	3,584
	19,845,500	18,200,825

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17 EXCHANGEABLE TRANSACTIONS

	2024 RM	2023 RM <i>As Restated</i>
Programme Management Charges	843,327	292,974
Current Account Interest	5,319	13,852
Fixed Deposit Interest	489,283	533,082
Other Income - ASM	247,298	602,292
Other Income - ISTIC	-	1,400
	1,585,227	1,443,600

18 SALARIES AND WAGES

	2024 RM	2023 RM
Permanent staff:		
Salaries and Wages	597,451	564,316
Fixed Allowance	141,067	151,377
Statutory Contribution to Employees	40,952	39,760
Overtime Allowance	16,911	8,191
Other Employee Benefits	20,812	15,870
	817,193	779,514

ASM's permanent employees are civil servants appointed to fill the PSD's employment warrant. Payment of salaries, wages and fixed costs are in accordance with Service Circular No. 1/2016. ASM had adopted the *Pekeliling Perkhidmatan Bilangan 1 Tahun 2024 Sistem Saran Perkhidmatan Awam (SSPA)* w.e.f 1 December 2024.

19 SERVICES AND SUPPLIES

	2024 RM	2023 RM <i>As Restated</i>
Administrative Cost	2,688,205	2,145,606
Emoluments for Contract Employees	7,154,757	6,569,822
Science Communication	357,393	268,474
Membership Affairs	462,000	685,450
Creative, Production and Design	10,701	-
ASM Press	101,693	21,355
Bureau of International Affairs	563,636	318,825
Flagship and NICHE Studies	208,886	170,842
STI Initiative and Partnership	520,313	785,708
Malaysia Science Endowment	11,856	9,818
	12,079,440	11,175,900

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19 SERVICES AND SUPPLIES (CONT.)

Services and Supplies are ASM's operating expenses occurred in carrying out the 14 functions of ASM as stipulated in the Academy of Sciences Malaysia Act 1994. The activities are based on current strategies and directions set by the ASM Council. The major administrative expenses include expenditures for facility management, information technology, finance and accounts, management of data and analysis as well as ASM committees and governing bodies. In addition, salaries and wages for ASM contract employees are designated in accordance with Service Circular No. 2/2008. Payment of wages, wages and fixed costs are in accordance with Service Circular No. 1/2016. ASM had adopted the *Pekeliling Perkhidmatan Bilangan 1 Tahun 2024 SSPA* w.e.f 1 December 2024.

20 SCIENCE PROGRAMME EXPENSES

	2024 RM	2023 RM <i>As Restated</i>
Collaborative Networking Activities		
STI Initiative and Partnership (NHSTI)	31,550	109,147
	<u>31,550</u>	<u>109,147</u>
Deferred Grant Expenditure		
Malaysia Open Science Platform (MOSP)	-	535,278
Study on Environmental Quality Act	-	82,800
Water Sector Transformation 2040 (WST 2040)	762,014	-
Suruhanjaya Kebangsaan UNESCO Malaysia (SKUM)	-	17,515
National Education Reform	419,320	-
Malaysia Blue Economy Blueprint	21,479	-
	<u>1,202,813</u>	<u>635,593</u>
Deferred Development Grant Expenditure		
Digitalisation and Internet of Things (IoT) Programme for Biodiversity	2,020,955	2,619,118
National Planetary Health Action Plan (NPHAP)	953,123	452,337
Wireless Bridging System	263,993	25,439
	<u>3,238,071</u>	<u>3,096,894</u>
Advance Received Expenditure		
Cosmic Connections Langkawi	-	54,920
Non-Radioactive Rare Earths Industry (NRREE)	52,348	184,803
Position Paper on New Horizon For STI (NHSTI)	30,718	92,153
	<u>83,066</u>	<u>331,876</u>
Donation Fund		
ArtScience Initiative	-	196,700
International Conference on Tropical Science	400,000	-
	<u>400,000</u>	<u>196,700</u>
TOTAL SCIENCE PROGRAMME EXPENSES	4,955,500	4,370,210

The Science Programme Expenses occurred in carrying out activities implemented by ASM for the Government and/or in executing collaboration programmes with other organisations at the national and international level through grants/allocations received. Meanwhile, Deferred Grant Expenditures are activities carried out by fulfilling the terms of reference of the programme as outlined in the agreement or letter of appointment.

21 CONTRIBUTION AND FIXED CHARGES

	2024 RM	2023 RM <i>As Restated</i>
Kelab Sukan dan Kebajikan Kakitangan (KSKK)	25,000	25,000
Pension	69,897	65,263
Donation/International Subscriptions	41,694	50,437
	<u>136,591</u>	<u>140,700</u>

22 EMPLOYEE BENEFITS

	2024 RM	2023 RM
Permanent Employee Replacement Leave	71,110	26,734
Contract Employee Replacement Leave	32,771	36,282
Contract Employee Gratuity	319,642	286,627
	<u>423,523</u>	<u>349,643</u>

23 OTHER EXPENSES

	2024 RM	2023 RM
Fees, Insurance, Taxes, and Stamp Duty	44,373	33,545
Loss of Disposal of Property, Plant and Equipment	109,982	587,091
Foreign Exchange Loss	2,270	1,576
Zakat	-	32,980
	<u>156,625</u>	<u>655,192</u>

24 RENTAL

	2024 RM	2023 RM <i>As Restated</i>
Office Rental	1,498,720	1,473,662
Store Rental	22,498	18,240
Office Equipment Rental	63,705	62,340
Electronic Equipment Rental	20,183	21,845
Other Rental	108,706	32,531
Parking Rental	81,250	43,163
	<u>1,795,062</u>	<u>1,651,781</u>

25 TAXATION

	2024 RM	2023 RM
Tax Liability:		
Tax Liability/(Overpaid) as at 01 January	43,095	(19,812)
Tax	103,816	175,624
Tax Paid	(188,985)	(112,717)
Tax Refund	20,012	-
Tax (Overpaid)/Due as at 31 December	<u>(20,062)</u>	<u>43,095</u>
Taxation:		
Current Year Tax	108,997	175,624
Over Provision of Previous Year's Tax	<u>(5,181)</u>	<u>-</u>
Tax	<u>103,816</u>	<u>175,624</u>

ASM is eligible for income tax exemption under the Income Tax (Exemption) (No.22) Order 2006.

26 HUMAN RESOURCE

ASM Management consist of permanent and contract employees. The total number of ASM employees as at 31 December 2024 was 100 (2023: 96). Below is the details:

	2024 RM	2023 RM
Permanent Employees:		
Top Management Group	1	1
Management and Professional Group	2	2
Support Group	6	6
Contract of Services (CoS) Employees:		
Management and Professional Group	68	62
Support Group	23	25
Total Staff		
Top Management Group	1	1
Management and Professional Group	70	64
Support Group	<u>29</u>	<u>31</u>
	<u>100</u>	<u>96</u>

27 TOP MANAGEMENT

The ASM leadership is led by the ASM Council chaired by the President. The ASM Council determines the direction of ASM and sets ASM policies. All decisions of the ASM Council are carried out by the ASM Management headed by the Chief Executive Officer (CEO).

27 TOP MANAGEMENT (CONT.)

	2024 RM	2023 RM
Members of Council:		
Total Allowance	28,000	35,750
Members of the Finance Committee:		
Total Allowance	34,000	33,500
Members of Executive Committee:		
Total Allowance	10,250	10,250
Members of STI Policy Advisory Committee:		
Total Allowance	75,750	84,500
Key Management Personnel:		
Short Term Benefits	267,053	260,502
	<u>415,053</u>	<u>424,502</u>

Council is the highest body established under the Academy of Sciences Malaysia Act 1994 to carry out functions of ASM as well as manage and oversee the affairs of ASM. ASM Council comprises of 16 members elected from among Fellows at the ASM Annual General Meeting, except for President who is appointed by the SPB Yang Di-Pertuan Agong. ASM Council chaired by President comprise of Vice-President, Secretary-General, Honorary Treasurer and 12 Ordinary Council members. Council convenes four (4) to five (5) times a year to decides on the way forward and implementation of ASM activities.

Executive Committee (EXCO) is established to assist Council to oversee the management and day-to-day operations and affairs of the Academy. EXCO comprises of President, Vice-President, Secretary-General and Honorary Treasurer. EXCO meets on behalf of Council to deliberate on urgent matters and provide input and decision to ASM Management.

ASM Finance Committee is responsible to oversee the planning, implementation and monitoring of ASM activities, procedures, system and reporting related to finance. The Committee is chaired by Honorary Treasurer assisted by eight (8) members.

The STI Policy Advisory Committee (STIPAC) functions as an oversight committee that provides strategic direction and inputs on all ASM studies as well as national policy and strategy matters related to STI to forge evidence-based and informed decision making. The Committee plays an important role to ensure ASM provides the best scientific advice and advocacy that is independent, credible, relevant and timely in the interest of the nation and society. STIPAC is chaired by ASM President assisted by 22 members.

Key Management Personnel is the Chief Executive Officer (CEO) of ASM acting as the Controlling Officer and has the authority and responsibility to plan, direct, implement and control ASM's activities. The CEO reports on the performance and status of all activities to the ASM Council.

28 FINANCIAL RISK MANAGEMENT

i. Financial Management Risk Objectives and Policies

ASM's financial risk management policy aims to ensure that there are sufficient financial resources for business development, managing credit risk, foreign exchange, and liquidity. ASM operates under clearly defined guidelines approved by ASM and ASM's policy is not to involve ASM in speculative transactions.

ii. Credit Risk

Credit risk or third-party risk of failure to pay is governed by the application of credit approval procedures, limits and strict supervision. Credit risk is minimised and closely monitored by limiting ASM's cooperation with high-credit business partners. Receivables are monitored continuously through ASM management reporting procedures.

For cash and bank balances, fixed deposits and short-term deposits, ASM reduces credit risk by dealing exclusively with high credit rating financial institutions.

iii. Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of ASM financial instruments will fluctuate due to changes in the interest rate market.

iv. Liquidity Risk

Liquidity and cash flow risk is the risk that ASM will face difficulties in meeting its financial obligations due to lack of funds. ASM's exposure to liquidity risks arises from differences in the maturity of financial assets and financial liabilities. The following table shows the maturity profile of ASM's liability at the date of the report based on repayment obligations without contract discounts.

ASM manages liquidity and cash flow risks by ensuring sufficient cash and providing sufficient funds to meet its commitments from operating expenses and financial liabilities.

	Less Than 1 Year RM	More Than 1 Year RM	Total RM
On 31 December 2024			
Accounts Payable	767,137	-	767,137
On 31 December 2023			
Accounts Payable	1,169,752	-	1,169,752

v. Fair Value

Cash and cash equivalents, receivables and payables equal their fair value due to their short maturity.

29 NOTES FOR STATEMENT OF COMPARISON FOR BUDGET AND ACTUAL

ASM Budget was approved and presented on a cash basis for the financial year 1 January 2024 to 31 December 2024. The original budget was approved by the MOSTI and notified by email on 26 February 2024.

30 PRIOR YEAR ADJUSTMENTS

In 2023, ASM understated other income amounted to RM 109,147 and overstated a fixed deposit interest income of RM 113,150, the income was derived from the fixed deposit of the Malaysia Science Endowment (MSE). The interest was earned from the fixed deposit profits generated from the funds received by ASM. The investment gains should be recorded separately as a liability payable to the Government.

Therefore, the impact on the financial statements is as follows:

	As Previously Stated RM	Adjustment RM	As Restated RM
Statement of Financial Position as at 31 December 2023			
Current Liabilities			
Non-exchangeable Transactions	1,202,119	113,150	1,315,269
Net Assets			
Accumulated Surplus	13,426,543	(4,003)	13,422,540
Statement of Financial Performance as at 31 December 2023			
Exchangeable Transactions			
Fixed deposit interest	646,232	(113,150)	533,082
Other Income - ASM	493,145	109,147	602,292
Total Income	19,648,428	(4,003)	19,644,425
Loss before tax	(344,120)	(4,003)	(348,123)
Loss after tax	(519,744)	(4,003)	(523,747)
Statement of Cash Flow as at 31 December 2023			
Loss before tax	(344,120)	(4,003)	(348,123)
Adjustment:			
Interest Income	(660,084)	113,150	(546,934)
Changes in working capital:			
Increase in Receivable from Exchangeable Transactions	52,351	(109,147)	56,796
Decrease in Payables from Exchangeable Transactions	(193,343)	113,150	(80,193)

30 PRIOR YEAR ADJUSTMENTS (CONT.)

Net cash generated from Operating Activities	<u>16,458</u>	<u>113,150</u>	<u>129,608</u>
Cash Flow From Investment Activities			
Interest Received	445,636	(113,150)	332,486
Net cash from Investment Activities	<u>(381,484)</u>	<u>(113,150)</u>	<u>(494,634)</u>
Statement of Changes in Net Assets as at 31 December 2023			
Accumulated Surplus	<u>13,426,543</u>	<u>(4,003)</u>	<u>13,422,540</u>

31 COMPARATIVE FIGURE

The comparative figures for the previous year have been restated to reflect the reclassification of program science expenditure transactions:

	As Previously Stated RM	Adjustment RM	As Restated RM
Statement of Financial Performance as at 31 December 2023			
Expenses			
Services and Supplies	9,640,017	1,535,883	11,175,900
Science Programme Expenses	5,957,963	(1,587,753)	4,370,210
Contribution and Fixed Charges	121,361	19,339	140,700
Rental	<u>1,619,250</u>	<u>32,531</u>	<u>1,651,781</u>

TELL ME MORE



2024 MANAGEMENT COMMITTEES

Council

Chair: President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Executive Committee (EXCO)

Chair: President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Science, Technology and Innovation Policy Advisory Committee (STIPAC)

Chair: President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

Finance Committee

Chair: Honorary Treasurer, Academician Datin Paduka Setia Dato' Dr Aini Ideris FASc

ASM Investment Sub-Committee

Chair: Dato' Dr Jalaluddin Harun FASc

Audit Committee

Chair: Datuk Dr Abdul Razak Mohd Ali FASc

Membership Committee

Chair: Vice-President, Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc

Media Response and Public Domain Focal Group

Chair: Secretary-General, Professor ChM Dr Noorsaadah Abd Rahman FASc

Presidential Advisory Committee

Chair: President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc

International Committee

Chair: Vice-President, Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc

Senior Fellows Committee

Chair: Academician Emeritus Professor Dato' Dr V.G. Kumar Das Govinda Panicker FASc

Publication Committee

Chair: Secretary-General, Professor ChM Dr Noorsaadah Abd Rahman FASc

• ASM Science Journal Editorial Board

Chair: Professor Dato' Dr Mohd Ali Hassan FASc

• e-estidotmy Editorial Board

Chair: Professor Ir Dr Rosdiadee Nordin

Disciplinary Committee for the Top Management Group

Chair: Secretary-General, Professor ChM Dr Noorsaadah Abd Rahman FASc

Disciplinary Appeal Committee for the Top Management Group

Chair: Vice-President, Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc

Jawatankuasa Wakalah Zakat

Chair: Honorary Treasurer, Academician Datin Paduka Setia Dato' Dr Aini Ideris FASc

Committee on ASM Strategic Plan

Chair: Secretary-General, Professor ChM Dr Noorsaadah Abd Rahman FASc

COMMITTEES AND TASK FORCES

Water Committee

Chair: Professor Dr Zulkifli Yusop FASc
Advisor: Tan Sri Dato' Ir Syed Muhammad Shahabudin FASc

Energy Committee

Chair: Professor Dato' Dr Kamaruzzaman Sopian FASc
Advisor: Professor Dato' Ir Dr A. Bakar Jaafar FASc

Health Committee

Chair: Professor Dr Tunku Kamarul Zaman Tunku Zainol Abidin FASc
Advisor: Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc

Agriculture Committee

Chair: Professor Dato' Dr Zulkifli Idrus FASc
Co-Advisors:
Academician Dato' Seri Dr Abdul Aziz S.A. Kadir FASc
Academician Datin Paduka Setia Dato' Dr Aini Ideris FASc

• Working Group on Fertiliser

Chair: Professor Dr Shamsuddin Jusop PGeol FASc

• Working Group on Lifestock Health and Production

Chair: Dato' Dr Quaza Nizamuddin Bin Hassan Nizam

• Working Group on Food Safety and Quality

Chair: Dr Zamri Ishak

• Working Group on Seed and Planting Material

Chair: Dr Chua Kim Aik

• Working Group on Precision Agriculture

Chair: Professor Dr Mohamad Hamiruce Marhaban

Biodiversity Committee**Chair:** Dr Helen Nair FASc**Co-Advisors:** Academician Emeritus Professor Tan Sri Dr Zakri Abdul Hamid FASc
Academician Tan Sri Dr Salleh Mohd Nor FASc**Blue Economy Committee****Co-Chairs:**Emeritus Professor Dr Phang Siew Moi FASc
Ir Dr Suzana Yusup FASc**Advisor:** Professor Dato' Ir Dr A. Bakar Jaafar FASc**Talent Development Committee****Co-Chairs:**Dr Mohamad Kamal Hj Harun FASc
Dr Nor Hadiani Ismail FASc**Advisor:** Academician Professor Datin Paduka Dr Khatijah Mohd Yusoff FASc**Digitalisation Committee****Co-chairs:**Dr Mohamed Awang Lah FASc
Emeritus Professor Dr Tharek Abd Rahman FASc
Advisor: Emeritus Professor Dato' Seri Ir Dr Mashkuri Yaacob FASc**Environment Committee****Chair:** Professor Emeritus Dato' ChM Dr Mazlin Mokhtar FASc**Advisor:** Academician Emeritus Professor Tan Sri Dr Zakri Abdul Hamid FASc**• Environment Committee: Regional Sub-Committee Leaders****Central Region Leader:** Professor Dr Mohd Talib Latif FASc**Northern Region Leader:** Professor Dr Sumathi Sethupati**Southern Region Leader:** Professor Dr Zahriladha Zakaria**East Coast Region Leader** - Professor Ts. Dr Lam Su Shiung**Sabah Region Leader** - Professor Ir Dr Rosalam Sarbatly**Sarawak Region Leader** - Datu Dr Lulie Anak Joshua Melling FASc**Climate Change and Disaster Risk Reduction Committee (CCDRR)****Chair:** Dato' Dr Yap Kok Seng FASc**Advisor:** Academician Emerita Professor Tan Sri Dato' Seri Dr Mazlan Othman FASc**Task Force on Review of ASM Act****Chair:** Secretary-General, Professor ChM Dr Noorsaadah Abd Rahman FASc**Science Awards Steering Committee****Chair:** Secretary-General, Professor ChM Dr Noorsaadah Abd Rahman FASc**ASM ArtScience™ Steering Committee****Chair:** Academician Emerita Professor Tan Sri Dato' Seri Dr Mazlan Othman FASc**• ASM ArtScience™ Prize Sub-Committee****Chair:** Dr Roslina Ismail**National Science Challenge (NSC) Steering Committee****Chair:** Professor Ir Dr Aduwati Sali FASc**Top Research Scientists Malaysia (TRSM) Steering Committee****Chair:** Vice-President, Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc**• Top Research Scientists Malaysia (TRSM) Selection Panel****Chair:** Professor Dr Rofina Yasmin Othman FASc**Coordinating Committee for the Development of the National Planetary Health Action Plan (NPHAP)****Chair:** Academician Professor Emerita Datuk Dr Asma Ismail FASc**Malaysia Science Endowment Committee (MSE)**

Temporarily led by President, Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc and CEO, Puan Hazami Habib

Working Group on ASEAN STI Ecosystem Foresight 2035**Chair:** Professor Dr Mahendhiran Sanggaran Nair FASc**ASM Building Committee****Chair:** Ir Ts Choo Kok Beng FASc**10-10 MySTIE Committee****Chair:** Professor Dr Mahendhiran Sanggaran Nair FASc**Deputy Chair:** Dr Zainal Ariffin Ahmad FASc**Science Outlook 2025 (SO2025)****Chair:** Emeritus Professor Dr Nik Meriam Nik Sulaiman FASc

SPECIAL INTEREST GROUP (SIG)

Special Interest Group on Social Innovation

Chair: Professor Dato' Dr Aileen Tan Shau Hwai FASc

Special Interest Group on Ocean Thermal Energy-Driven Development for Sustainability

Chair: Professor Dato' Ir Dr A Bakar Jaafar FASc

Special Interest Group on Quantum Technology

Chair: Emeritus Professor Dato' Dr Mohamed Ridza Wahiddin FASc

Special Interest Group on Full Economic Costing (SIGFEC)

Chair: Professor Ir Dr Shaliza Ibrahim CEng FICHEM FASc

PARTNERSHIP PROGRAMME

Dr Ranjeet Bhagwan Singh Medical Research Trust Fund Programme Committee

Chair: Professor Dr Sheila Nathan FASc

Alternate Chair: Professor Dato' Dr Mohd Azmi Mohd Lila FASc

SPECIAL PROJECTS

Malaysian Collaborative Network (i-Connect) Initiative Steering Committee

Co-Chairs:

Academician Datuk Dr Tengku Mohd Azzman Shariffadeen FASc
Ir Ts Choo Kok Beng FASc

Malaysia Open Science Alliance (MOSA)

Co-Chairs:

Professor ChM Dr Noorsaadah Abdul Rahman FASc
Professor Ir Dr Shaliza Ibrahim CEng FICHEM FASc

• Malaysia Open Science Alliance (MOSA) Technical Committee

Chair: Associate Professor Dr Liew Chee Sun

Task Force on Digitalisation and IoT Programme for Biodiversity

Co-Chairs:

Emeritus Professor Dr Wickneswari Ratnam FASc
Dr Wan Mohd Shukri Wan Ahmad

Gamat Emas Task Force

Chair: Professor Dato' Dr Aileen Tan Shau Hwai FASc

National Education Reform

Co-Chairs:

Academician Professor Emerita Datuk Dr Asma Ismail FASc
Professor ChM Dr Noorsaadah Abd Rahman FASc
Mr Chan Soon Seng

Malaysia Blue Economy Blueprint

Chair:

Emeritus Professor Dr Phang Siew Moi FASc

Co-Chair:

Professor Dr Mahendhiran Sanggaran Nair FASc

International Science, Technology & Innovation for South-South Cooperation (ISTIC)

Chair: Professor ChM Dr Mohd Basyaruddin Abdul Rahman FASc

CHAPTERS

ASM Northern Chapter

Chair: Professor Dr Habibah A Wahab FASc

ASM Southern Chapter

Chair: Professor Ir Dr Haslenda Hashim FASc

ASM East Coast Chapter

Chair: Professor Dato' Dr Jafri Malin Abdullah FASc

ASM Sabah Chapter

Chair: Dr Rahimatsah Amat FASc

• ASM Sabah Chapter Working Group

Co-Chairs:

Dr Rahimatsah Amat FASc
Associate Professor Dr Mailin Misson

ASM Sarawak Chapter

Chair: Datu Dr Lulie Anak Joshua Melling FASc

DISCIPLINE GROUPS

Biological, Agricultural and Environmental Sciences

Chair: Dr Ravigadevi Sambanthamurthi FASc

Alternate Chair: Professor Dato' Dr Mohamed Shariff Mohamed Din FASc

Chemical Sciences

Chair: Emeritus Professor Dato' Dr Mohd Jamil Maah FASc

Alternate Chair: ChM Dr Yang Farina Abdul Aziz FASc

Engineering Sciences

Chair: Dr Zahari Taha FASc

Alternate Chair: Datuk Ir (Dr) Abdul Rahim Hj Hashim FASc

Information Technology and Computer Sciences

Chair: Emeritus Professor Dr Mohamed Ridza Wahiddin FASc

Alternate Chair: Dato' Ts Dr Amirudin Abdul Wahab FASc

Mathematics, Physics and Earth Sciences

Chair: Professor Dr Wan Ahmad Tajuddin Wan Abdullah FASc

Alternate Chair: Professor Dr Maslina Darus FASc

Medical and Health Sciences

Chair: Professor Datin Paduka Dr Teo Soo Hwang FASc

Alternate Chair: Dr Subramaniam Krishnan FASc

Science & Technology Development and Industry

Chair: Dato' Dr Jalaluddin Harun FASc

Alternate Chair: Datuk Dr Ahmad Tasir Lope Pihie FASc

Social Sciences and Humanities

Chair: Professor Emeritus Datuk Dr Norma Mansor FASc

Alternate Chair: Emeritus Professor Datuk Dr Osman Bakar FASc

YOUNG SCIENTISTS NETWORK (YSN-ASM)

Chair: Professor Ts Dr Nurfadhlina Mohd Sharef

Vice-Chair: Professor Dr Denny Ng Kok Sum

Secretary-General: Associate Professor Dr Nurbiha A Shukor

Honorary Treasurer: Dr Phan Chia Wei

• Science Policy & Governance Working Group

Chair: Associate Professor Ts Dr Mohd Faizal Ibrahim

Co-chair: Dr Muhammad Abd Hadi Bunyamin

• Science Outreach Working Group

Chair: Dr Lee Sau Har

Co-chair: Associate Professor Ts Dr Mailin Misson

• Science @ Media Working Group

Chair: Associate Professor Dr Fatimah Abdul Razak

Co-chair: Dr Jezamine Lim

• Science Communication Working Group

Chair: Associate Professor Ts Dr Dayana Farzeeha Ali

Co-chair: ChM Dr Shahrul Nizam Ahmad

• Research Synergy Working Group

Chair: Associate Professor ChM Dr Fatimah Salim

Co-chair: Dr Sabrinah Adam

• Science Education Working Group

Chair: Associate Professor Dr Suhaila Sepeai

Co-chair: Dr Amirah Abdul Rahman

• Science Integrity Working Group

Chair: Associate Professor Ts Dr Mohd Hafiz Arzmi

Co-chair: Assistant Professor Ts Dr Eugenie Tan Sin Sing

• Science Leadership Working Group

Chair: Dr Ng Siew Kit

Co-chair: Dr Thaigarajan Parumasivam

YSN-ASM Membership Selection Committee

Chair: Vice-President, Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc

ASM REPRESENTATIVES IN INTERNATIONAL AND NATIONAL MEETINGS

Association of Academies and Societies in Asia (AASSA)

President, Academician Datuk Dr Tengku Mohd
Azzman Shariffadeen FASc

Low and Middle-Income Country, InterAcademy Partnership (IAP) Board

Academician Professor Emerita Datuk Dr Asma
Ismail FASc (Co-Chair)

- Policy Advice Committee, IAP**
Academician Professor Emerita Datuk Dr Asma
Ismail FASc (Co-Chair)
Professor Dato' Ir Dr A. Bakar Jaafar FASc
(Member)
- Academy Capacity Building Development and
Programme Committee, IAP**
Academician Professor Datin Paduka Dr
Khatijah Mohd Yusoff FASc (Member)
- InterAcademy Partnership for Urban Health,
IAP**
Datuk Professor Dr Awg Bulgiba Awg Mahmud
FASc (Member)

ISC Dues Revision Working Group (2024)

Academician Distinguished Professor Datuk Dr
Looi Lai Meng FASc (Member)

Standing Committee for Science Planning 2022- 2025, International Science Council (ISC)

Academician Professor Emerita Datuk Dr Asma
Ismail FASc (Member)

Network of Academies of Sciences in the Islamic Countries (NASIC)

President, Academician Datuk Dr Tengku Mohd
Azzman Shariffadeen FASc

Science Council of Asia (SCA) Management Board

Academician Distinguished Professor Datuk Dr
Looi Lai Meng FASc (Member)

Academy of Sciences in Developing World (TWAS)

President, Academician Datuk Dr Tengku Mohd
Azzman Shariffadeen FASc

ASEAN Network of Young Scientists (ASEAN YSN)

Professor Dr Chai Lay Ching (Co-Chair)

Board of Advisor (Malaysia), ASEAN Foresight Alliance Committee

Academician Emerita Professor Tan Sri Dato' Seri
Dr Mazlan Othman FASc (Member)

ISTIC Governing Board

Chair, Professor Dr Mohd Basyaruddin Abdul
Rahman FASc (Member)

• ISTIC Executive Committee

Professor Dato' Ir Dr A Bakar Jaafar FASc
(Member)

APEC Policy Partnership on STI (PPSTI) Working Meeting

CEO, Pn Hazami Habib (Vice-Chair)

World Organization for Science Literacy (WOSL)

CEO, Pn Hazami Habib (Member of Preparatory)

UNESCO Open Science Advisory Committee

Professor ChM Dr Noorsaadah Abd Rahman
FASc (Malaysia's Focal Point)

UNESCO Intergovernmental Special Committee Meeting on Open Science

CEO, Pn Hazami Habib (Alternate Focal Point)

Socioeconomic Advisory Committee

Professor Dato' Dr Tengku Aizan Tengku Abdul
Hamid FASc (Member)

Working Group on Human Capital and Research for Global Innovation Index (GII)

Professor Dr Yvonne Lim Ai Lian FASc (Member)

National Committee on Research Integrity

Academician Professor Datin Paduka Dr Khatijah
Mohd Yusoff FASc (Member)

Majlis Pembangunan Teknologi dan Inovasi Sabah (MaPTIS)

Chair of ASM Sabah Chapter, Dr Rahimatsah
Amat FASc (Member)

Majlis Bioetika Negara

Professor Dr Rofina Yasmin Othman FASc as
(Permanent Member)
Professor Dr Chan Kok Gan FASc (Alternate
Member)

LIST OF EVENTS

JANUARY

Wacana STEM: 'Mengapa STEM Diperlukan pada 2024?'

11 January

Courtesy Visit from the Islamic Development Bank Group (IsDB)

12 January

Academy of Sciences Malaysia (ASM) and the Korean Academy of Science and Technology (KAST) MoU Signing

22 January

ASM-KAST Bilateral Symposium

29 January

Courtesy Visit from Majlis Biodiversiti Pahang (MBP) Delegates

23 January

FEBRUARY

Courtesy Visit from Japan Science and Technology Agency (JST)

2 February

Precision Biodiversity (PBD) Alliance Meeting

14 February

President Townhall Meeting

19 February

Courtesy Visit from the King Prajadhipok's Institute (KPI), Thailand

20 February

Perhimpunan Tahunan 2024 bersama Ketua Pegawai Eksekutif ASM

22 February

Kesedaran Kendiri dan Situasi Untuk Pertumbuhan Individu dan Organisasi

22 February

Courtesy Visit from YB Dr Haim Hilman Abdullah, EXCO Industri dan Pelaburan

23 February

Special Interest Group on Ocean Thermal Energy-Driven Development for Sustainability (SIG OTEDDS) | Stakeholder Engagement: Industries

26 February

The 23rd APEC Policy Partnership on Science, Technology and Innovation (PPSTI) Meeting

28-29 February

MARCH

Courtesy Visit from the National Research and Innovation Agency (BRIN)

5 March

WEHAB++ Water Committee | Water Sector Reform Forum at Program Pemukiman PETRA

5 March

Special Interest Group on Ocean Thermal Energy-Driven Development for Sustainability (SIG OTEDDS) | Stakeholder Engagement: Government Ministries & Agencies

7 March

International Woman's Day

8 March

Bengkel Permukiman MSE

11 March

Special Interest Group on Ocean Thermal Energy-Driven Development for Sustainability (SIG OTEDDS) | Stakeholder Engagement: Non-Governmental Organisations & Civil-Society Organisations

11 March

Special Interest Group on Ocean Thermal Energy-Driven Development for Sustainability (SIG OTEDDS) | Stakeholder Engagement: All-Party Parliamentary Group Malaysia – Sustainability Development Goals

11 March

APRIL

WEHAB++ Health Committee | Beyond COVID-19: Innovating for the Next Pandemic Workshop
5 April

ISC Global Knowledge Dialogue for Latin America and the Caribbean
9-11 April
Santiago, Chile

Visit from Hi-Tech Instruments Sdn. Bhd
16 April

WEHAB++ Water Committee | Bengkel Persediaan RMKe-13 Bahagian Ekonomi Alam Sekitar Dan Sumber Asli
22 April

Hari Raya Celebration
23 April

WEHAB++ Water Committee | ASIAWATER 2024: Panel forum for Session II (Day 2) - Sustainable Water Development: Tracking Progress in Malaysia's Water Transformation 2040
24 April

WEHAB++ Water Committee | Conference on "Environmental, Social & Governance (ESG) SPAN Sempena ASIAWATER 2024"
25 April

ASM President's Official Visit to Kelantan
28 – 30 April

MAY

WEHAB++ Climate Change & Disaster Risk Reduction Committee | ASM Roundtable Dialogue for Impact of Climate Change Negotiations on Malaysia
6 May

ASM President Visit – Penang
6 – 8 May

2024 ASM Northern Chapter Roadshow – Johor
8 May

39th IdeaXchange Positioning Northern Corridor as a Hub of Global Smart Technologies
8 May

Chit Chat with SPM Leavers: What's next?
16 May

UN World Summit on the Information Society (WSIS)+20 Forum High-Level Event 2024
27 – 31 May
Geneva, Switzerland

JUNE

2024 ASM Southern Chapter Roadshow
12 June

40th IdeaXchange Creating the Ecosystems to Position Malaysia as the Business and Services Hub for the Region
12 June

Science Outlook Stakeholder Engagement
13 June

29th ASM Annual General Meeting
22 June

Working visit to Seoul, South Korea with Ministry of Science, Technology and Innovation
23-27 June
Seoul, South Korea

Nobel Laureate Lecture by Sir Paul Nurse
24 June

Visit from the Korean Academy of Science & Technology (KAST)
24 June

73rd Lindau Nobel Laureate Meeting
30 June – 5 July
Lindau, Germany

JULY

Diagnostics and Therapeutics Workshop
1- 2 July

Courtesy Visit from the Deputy Vice-Chancellor (Research & Innovation) Office, Universiti Teknologi Mara (UiTM)
2 July

Sending off NSC 2023 Winner 2024
22 July

National Dialogue on Planetary Health: Interconnectivity of Humans, Planet, and Prosperity
25 July

Courtesy Visit from Japan's Liberal Democratic Party (LDP)
29 July
Kuala Lumpur

STI 100^3
17 July

1st FASciate 2024
17 July

AUGUST

CERN Summer Student Programme (CSSP)
1 – 23 August
Geneva, Switzerland

YSN Turun Padang: SK Kota Kinabatangan
5 August

YSN Turun Padang: SK Batu 16 Gum Gum, Sandakan
7 August

UN World Summit on the Information Society (WSIS)+20 Forum High-Level 2024 BiLateral meeting
8 August

JSPS Alumni Association Malaysia (JAAM) -ASM-Japan Society for the Promotion of Science (JSPS) STIE Symposium
17 August
Kuala Lumpur

2024 Dr Ranjeet Bhagwan Singh (RBS) Memorial Lecture and Announcement of RBS Research Grant Recipient
19 August

PPSTI Workshop on the Landscape Study and Benchmarking Workshop for the APEC Open Science Alliance
18 August
Lima, Peru

24th APEC Policy Partnership on Science, Technology and Innovation meeting
19 - 20 August
Lima, Peru

SEPTEMBER

Kick-Off Conference RMK13
5 September

Science at Shine Dome Programme 2024
9 – 12 September
Canberra, Australia

Courtesy Visit from the Chinese Academy of Engineering (CAE)
10 September

CERN Summer Students Programme (CSSP) 2024 participants meeting with YBM MOSTI
11 September
Kuala Lumpur

ASEAN Plan of Action on Science, Technology and Innovation (APASTI) Workshop: Actions to address the challenges and opportunities of the coming decade
11-12 September
Jakarta, Indonesia

Phyton Programming Workshop
12 & 13 September and
23 & 24 September

International Training Programme on STI Policy: Roles of STI for Excellence in Commercialization in Emerging Economies
12-14 September

NSC STEM Camp
17 – 21 September

Webinar: Architecture of Quantum Computer (Dr Yap Yung Szen)
23 September

National Science Challenge Final Stage
24 September

Webinar: Quantum Revolution: From Demystifying Science to Disruptive Technology (Profesor Dr Raymond Ooi Chong Heng FASc)
27 September

Webinar: Quantum Cryptography and Post Quantum Cryptography (Profesor Madya Ir Dr Norshamsuri Ali @ Hasim)
30 September

OCTOBER

Webinar: Quantum Safe Infrastructure for Cyber Resilience (En Hj Thaib Mustafa)

1 October

Webinar: A New Approach to Quantum Concepts in Education: Revolutionising Learning Through Quantum Computing (Dr Siti Munirah)

3 October

STS Forum Young Leaders Programme

5 – 8 October

Kyoto, Japan

Joint Meeting of the InterAcademy Partnership Board & Advisory Committee

7 - 8 October

Kuala Lumpur

Sabah Regional Stakeholder Engagement (RSE)

8 October

Special Interest Group on Quantum Technology (SIGQT) | Stakeholder Engagement

8 October

Bengkel Pembangunan Kertas Posisi Teknologi Kuantum

8 October 2024

WEHAB++ Agriculture Committee | Workshop on Optimising Paddy Cultivation through Precision Agriculture

12 October

Program Ceramah Kerjaya: ASM Sabah Chapter

14 October

NERA Stakeholder Engagement – Penang

14 – 15 October

2nd International Conference on Tropical Sciences 2024

16 – 17 October

Kuching, Sarawak

Sarawak Regional Stakeholder Engagement (RSE)

18 October

WEHAB++ Water Committee | Peluncuran Pelan Hala Tuju Transformasi Air 2040 (AIR 2040)

29 October

NOVEMBER

2024 YSN-ASM Chrysalis Award

7 November

NERA Engagement Session – Sabah

7 – 8 November

2024 YSN-ASM Colloquium

8 November

Karnival STI MADANI 2024

7 – 10 November

Program Pendidikan Alam Semulajadi Berasaskan Cendawan di Taman Bukit Tawau

12 – 14 November

Protecting Human Health by Safeguarding the Planet

19 November

Science Academies of Asia Forum (SAAF)

19-22 November

Seoul, South Korea

Sesi Perluasan Capaian Internet melalui Sistem Wireless Bridging

20 November

NERA Stakeholder Engagement - Sarawak

21 – 22 November

Project STEM 60:40: Way Forward

26 November

NERA Stakeholder Engagement - Kelantan

27 – 28 November

Majlis Apresiasi 2023 dan Perhimpunan Akhir Tahun 2024

29 November

23rd Science Council of Asia Conference & Management Board Meeting

30 November – 2 December

Virtual/Bangladesh

DECEMBER

NERA Stakeholder Engagement – Johor

4 – 5 December

Courtesy Visit from Beijing Association for Science and Technology (BAST)

6 December

Kuala Lumpur

Academy of Sciences Malaysia (ASM) and the Chinese Academy of Sciences (CAS) MoU Signing

9 December

Kuala Lumpur

APEC Workshop on Women in STEM

12 December

Beijing, China

2nd FAScinate 2024

19 December

ASM MANAGEMENT

President Office

Norazwa Musiran, Senior Analyst cum Special Officer to President

CEO Office

Hazami Habib, Chief Executive Officer (CEO)
Nurul Rahimah Abu Bakar, Special Officer to CEO

Knowledge Hub, Data Analytics & Strategic Inputs Unit

Nasiha Syahirah Omar, Senior Analyst
Hayatun Syamilah Mohammad Jasni, Analyst
Nur Hanisah Ismail, Analyst
Nur Hidaayah Abu Hanifah, Analyst
Mohamad Faizol Hassan, System Administrator
Anuar Ahmad, Assistant Executive

Legal & Compliance Unit

Fatin Hamim Riduan, Senior Legal Executive
Nurul Najihah Saupi, Legal Executive
Muhammad Fakhrul Syakirin Noor Azam, Integrity Executive

STI Strategic Studies, Analytics & Partnership Division

Nitia Samuel, Chief Strategy Officer (CSO)
Sazarul Aini Sabot, Assistant Executive

Flagship & Commissioned Studies Unit

Muhammad Haikal Hikmal Hazam, Senior Analyst
Ratnamalar Rajasingam, Senior Analyst
Farah Amirah Mohd Nasri, Analyst
Fatin Noradlina Osman, Analyst
Mohamad Hasril Abd Hamid, Analyst
Muhamad Fahmi Isa, Analyst
Noor Afeefah Nordin, Analyst
Norsyazlin Abd Rashid, Analyst
Norsyahira Shakri, Analyst
Nur Atiqah Maznan, Analyst
Nur Syahirah Sohaimi, Analyst
Nurul Haziqah Hamzah, Analyst
Syamimi Md Jamal, Analyst

Strategic Initiatives Unit

Muadz Norazan, Senior Analyst
Natasha Nur Amarina Mohamad Kaie, Senior Analyst
Adlin Sofea Alauddin, Analyst
Anissa Azlan, Analyst
Matthew Raj Alias, Analyst
Mohamad Sofi Abu Hassan, Analyst
Nabilah Othman, Analyst
Nur Jannah Md Hassan, Analyst
Nur Shaidatul Husna Mohamad Rais, Analyst
Nurul Hamizah Md Yusof, Analyst
Khairul Nisak Alias, Admin Assistant

Malaysia Science Endowment (MSE)

Loh Chia Hur, Senior Analyst
Kausaalya Nagaraja, Analyst
Ng Yin Zhuang, Analyst
Natasya Nureen Nazaruddin, Analyst

International Affairs & Communication Division

Dharshene Rajayah, Chief of International Affairs & Communication (CIAC)
Nurul Farhana Mohd Farizah, Assistant Executive
Mohamad Firdaus Jamil, Assistant Executive

Creative Production & Design Unit

Mohd Najmie Mohd Yusoff, Multimedia Programmer
Naina Afifi Rosly, Graphic Designer
Muhammad Akmal Hakim Mohamad Khalid, Multimedia Content Creator

ASM Press

Hazrul Liki, Senior Executive
Nazmi Lao, Writer
Ilham Raudhah Syazwani Mohd Razman, Editor
Muhammad Ikram Latif, Journal Executive

Marketing Communications Unit

Najib Mohd Idris, Senior Executive
Mohamad Haziq Rosli, Graphic Designer
Syakirah Nurizzati Mohamad Hood, Public Relations Executive
Siti Sarah Abd Rahman, Public Relations Executive

Bureau of International Affairs

Nina Azrah Razali, Senior Analyst
Nur Amirah Sofea Saiful Anuar, Analyst
Khairunnisa Kadaruddin, Analyst

Corporate Services Division

Seetha Ramasamy, Chief Operating Officer (COO)
 Sharifah Radiah Syed Mohd Gazali, Assistant Executive

Human Resources Management Unit

Nur Aziera Ahmad Tarmizi, Senior Executive
 Zarith Sofia Mujamil, Executive
 Murni @ Zahani Ariffin, Senior Admin Assistant
 Nur Azalia Abd Aziz, Assistant Executive
 Nur Shafawaty Ahmad, Assistant Executive

Membership Affairs Unit

Joy Grace Rayappan, Senior Analyst
 Abdul A'dzim Abd Rashid, Analyst
 Nur Amelya Mohammed Jamal, Analyst
 Che Nor Adila Che Hasan, Analyst
 Maisarah Mohammad, Assistant Executive

Finance & Accounts Unit

Anis Adilla Mohd Arif, Senior Accountant
 Aida Syarafina Ismail, Accountant
 Nur Idayu Abd Aziz, Assistant Accountant
 Nurhani Zawani Posari, Assistant Accountant
 Siti Nor Adila Sabri, Assistant Accountant
 Warnida Mohd Fadzli, Assistant Accountant
 Nor Hayati Johan, Account Assistant

Procurement Unit

Norsuhada Adnan, Executive
 Nur Afiqah Azlin Azmi, Executive
 Siti Hazirah Noor Mat Din, Executive
 Wan Farah Emeleen Wan Mazlan, Assistant Executive
 Juhari Musleh, Assistant Executive
 Muhammad Saiful Bahri Wan Din, Admin Assistant

Facility Management Unit

Saiful Suhairi Suarni, Senior Executive
 Shahridzal Aizat Shahrum, Admin Executive
 Siti Amalina Ismail, Office Administration & Asset Management Executive
 Muhammad Hafiz Mat Ya'cob, IT Executive
 Ahmad Khudri Abd Razak, IT Assistant Executive
 Muhammad Effandie Nordin, IT Assistant Executive
 Mohd Zairi Mansor, Senior Admin Assistant
 Muhammad Fathorossoim Al-Sani Abdullah Sani, Admin Assistant
 Norehan Kadir, Admin Assistant
 Rohani Mohd Yusof, Admin Assistant
 Mohd Zefri Mohd Zulkefli, Operation Assistant
 Rusli Othman, Operation Assistant
 Mohd Azmy Abdul Rahman, Driver
 Mohd Zuhairi Zakbar, Driver
 Shareeza Shaari, Driver

International Science, Technology & Innovation Centre for South-South Cooperation (ISTIC)

Tengku Sharizad Tengku Chik, Director
 Hannah Norazharuddin, Senior Programme Executive
 Mohd Azim Noor, Programme Executive
 Zarmila Salmi Sabot, Admin Executive
 Hazman Al-Hafiz Hazal, Assistant Executive

ACRONYMS

13MP – The 13th Malaysia Plan
AFA – ASEAN Foresight Alliance
AGM – Annual General Meeting
AI – Artificial Intelligence
AMMSTI – ASEAN Ministerial Meeting on Science, Technology, and Innovation
AMS – ASEAN Member States
APEC – Asia-Pacific Economic Cooperation
APECOSA – APEC Open Science Alliance
ASEAN – Association of Southeast Asian Nations
ASM – Academy of Sciences Malaysia
CAS – Chinese Academy of Sciences
CCUS – Carbon Capture, Utilisation and Storage
CEO – Chief Executive Officer
CERN – The European Organisation for Nuclear Research
CIAC – Chief of International Affairs and Communications
COO – Chief Operating Officer
COSTI – ASEAN Committee on Science, Technology and Innovation
CREST – Collaborative Research in Engineering, Science and Technology
CSO – Chief Strategy Officer
CSO – Civil Society Organisation
CSSP – CERN Summer Student Programme
DEI – Diversity, Equity, Inclusivity
EUDR – European Union Deforestation Regulation
EXCO – Executive Committee
FAIR – Findable, Accessible, Interoperable, and Reusable

FGD – Focus Group Discussion
FRIM – Forest Research Institute Malaysia
GA – General Assembly
GDP – Gross Domestic Product
GLC – Government-Linked Companies
HE – Higher Education
HEI – Higher Education Institution
IDS – Institute For Development Studies
IoT – Internet of Things
IP – Intellectual Property
IPT – Institut Pengajian Tinggi
IPTA – Institut Pengajian Tinggi Awam
IPTS – Institut Pengajian Tinggi Swasta
ISC – International Science Council
ISTIC-UNESCO – The International Science, Technology, and Innovation Centre for South-South Cooperation under the auspices of UNESCO
KAST – Korean Academy of Science and Technology
KE – Ministry of Economy
KL – Kuala Lumpur
KSTI – Kementerian Sains, Teknologi dan Inovasi Sabah
MBEB – Malaysia Blue Economy Blueprint
MCRCR – Malaysian Code of Responsible Conduct in Research
MDEC – Malaysia Digital Economy Corporation
MOF – Ministry of Finance
MOHE – Ministry of Higher Education
MOSP – Malaysia Open Science Platform

MOSTI – Ministry of Science, Technology and Innovation
MoU – Memorandum of Understanding
MSE – Malaysia Science Endowment
MSN – Minggu Sains Negara
MW – Megawatts
MySTIE – Malaysian Science, Technology, Innovation and Economy
NERA – New Education Reform Agenda
NGO – Non-Governmental Organisation
NIBM – National Institutes of Biotechnology Malaysia
NPHAP – National Planetary Health Action Plan
NSC – National Science Challenge
NSC – National Science Council
OS – Open Science
OTEC – Ocean Thermal Energy Conversion
OTEDDS – Ocean Thermal Energy-Driven Development for Sustainability
OTENAS – Ocean Thermal Energy Nasional Berhad
PBD – Precision Biodiversity
PCDS – Post-COVID-19 Development Strategy 2030
PDPR – Pengajaran dan Pembelajaran di Rumah
PETRA – Kementerian Peralihan Tenaga dan Transformasi Air
POC – Proof of Concept
PPSTI – Policy Partnership on Science, Technology, and Innovation
R&I – Research and Innovation

RBS – Dr Ranjeet Bhagwan Singh Medical Research Grant
RDICE – Research, Development, Innovation, Commercialisation & Economy
ROV – Return on Value
RSE – Regional Stakeholder Engagement
SCIRD – Sub-Committee on S&T Infrastructure and Resources Development
SDGs – Sustainable Development Goals
SEA – Southeast Asia
SIG – Special Interest Group
SO2025 – Science Outlook 2025
SPF – Stesen Penyelidikan FRIM
STEM – Science, Technology, Engineering, and Mathematics
STI – Science, Technology and Innovation
STIE – Science, Technology, Innovation and Economy
STIPAC – Science, Technology and Innovation Policy Advisory Committee
T&L – Teaching and Learning
TropScTM2024 – The 2nd International Conference on Tropical Sciences
TRSM – Top Research Scientists Malaysia
TSF – Tropical Science Foundation
UHC – Universal Health Coverage
UITM – Universiti Teknologi MARA
UMT – Universiti Malaysia Terengganu
UN – United Nations
UNIMAS – Universiti Malaysia Sarawak
UPM – Universiti Putra Malaysia
UTM – Universiti Teknologi Malaysia

WBS – Wireless Bridging System
WEHAB++ – Water, Energy, Health, Agriculture, Biodiversity, Blue Economy, Talent Development, Environment, Digitalisation, and Climate Change & Disaster Risk Reduction
YIM – Yayasan Inovasi Malaysia

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