INDUSTRY NEWS

Research reveals impact of AI and cybersecurity on women, peace and security in SEA

Systemic issues can put women's security at risk when AI is adopted, and gender biases across widely used AI-systems pose a significant obstacle to the positive use of AI in the context of peace and security in Southeast Asia (SEA), according to a research conducted by UN Women and the United Nations University Institute in Macau (UNU Macau).

With AI projected to add US$1 trillion to the gross domestic product of Southeast Asian countries by 2030, understanding the impact of these technologies on the women, peace and security (WPS) agenda is critical to supporting these countries to regulate the technologies and mitigate their risks.

The study examines the relationship between AI and WPS according to three types of AI and its applications: AI for peace, neutral AI, and AI for conflict; and notes that across these categories, there are favourable and unfavourable effects of AI for gender-responsive peace and women's agency in peace efforts.

While using AI for peace purposes can have multiple benefits, such as improving inclusivity and the effectiveness of conflict prevention and tracking evidence of human rights breaches, it is used unequally between genders, and pervasive gender biases render women less likely to benefit from the application of these technologies.

The study identifies two dimensions to improving the dynamics of AI and the WPS agenda in the region: mitigating the risks of AI systems to advancing the WPS agenda, especially on social media, but also on other tools, such as chatbots and mobile applications; and fostering the development of AI tools built explicitly to support gender-responsive peace in line with WPS commitments.

The study also reveals that while there is increasing awareness of the risks women and girls face in cyberspace, there is little understanding of the impact of gender on cybersecurity, or of the processes and practices used to protect digital systems and networks from cyber risks and their harms.

Its recommendations include fostering inclusive and collaborative approaches in cybersecurity policy development and engagement, and building the knowledge of civil society, government, private sector actors and other decision makers to develop appropriate means of prevention and response to cyber-attacks and their disproportionate impact on women civil society organisations and women human rights defenders.

UNU Macau and UN Women aim for this research, conducted over 12 months, to contribute to the global discourse on ethics and norms surrounding AI and digital governance at large.

Decarbonisation ideas present US$150B green economy market opportunities for SEA

Southeast Asian markets now have a window of opportunity to accelerate decarbonisation with actionable ideas and accelerators to unlock these ideas by 2030, according to *Southeast Asia's Green Economy 2024 – Moving the needle*, a report by Bain & Company, GenZero, Standard Chartered and Temasek.

In its 5th edition, the report which covers 10 markets – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam – acknowledged that the region faces unique and complex challenges in decarbonisation. As a growing economy, Southeast Asia (SEA) needs to balance economic growth and the costs of the energy transition, as the region has legacy dependencies on fossil fuel for power generation.

The report first assessed 94 investable decarbonisation ideas for SEA by abatement impact and deployability, based on six priority decarbonisation opportunities including improved farming practices, nature-based solutions, green fuel source, process optimisation, greener transport and energy efficient buildings.

Out of this pool, the top 13 investable ideas across four sectorial themes – nature and agriculture, power, transport, and buildings – were identified. If materialised, these 13 ideas could generate US$150 billion annual revenue by 2030.

Regional collaboration is fundamental to push the green agenda further, according to the report. For instance, a regional cross-border grid would unlock greater access to renewables for the region and increase energy security with effective utilisation and resource sharing.

Growing a high integrity voluntary carbon market could unlock and scale supply of nature-based solutions through cross-border carbon market funding, and boost investor confidence and corporate demand by capturing full value of credits.

Expanding the ASEAN Taxonomy could help regional stakeholders align on definitions of credible transition and green finance, which improves investor confidence and increases green capital inflows. Joint effort among governments, corporates and investors to play their respective parts is also equally important, says the report.

Strengthening cybersecurity resilience and governance across ASEAN

We sat down with **Steve Ledzian, CTO for Mandiant at Google Cloud Security**, after his keynote on cyber-attacks in ASEAN at the 8th ASEAN CIO Forum yesterday, to gather his viewpoints on harnessing generative AI for cybersecurity and what collaborative strategies can regional countries adopt to combat cyber threats effectively.

What are the key best practices for deploying generative AI in cybersecurity that organisations in ASEAN should adopt to ensure robust protection of their digital infrastructure?

Google's Secure AI Framework (SAIF) provides a structured approach for securing AI systems, which is critical for ASEAN organisations looking to deploy generative AI in cybersecurity.

SAIF emphasises six core elements: extending strong security foundations to the AI ecosystem, timely detection and response, automation of defences, harmonising protections, continuous adaptation, and contextualising risks within business processes.

These principles address practical concerns such as AI/ML model risk management, security, and data protection, aligning with the multi-layered approach. The framework provides guidance on data, model, application, and infrastructure security, urging organisations to implement best practices such as "data-as-dode," mitigating data poisoning, preventing model theft, utilising secure configurations and confidential computing.

By adhering to SAIF's principles and adopting its recommended practices, ASEAN organisations can enhance the security of their AI systems, mitigating risks and safeguarding their digital infrastructure.

Organisations deploying generative AI in cybersecurity should also consider using security-specific large language models (LLMs), extensions, and grounding databases to respond more accurately to security-specific user prompts than general-purpose generative AI models.

Models need to be trained, tuned, and grounded with critical and up-to-date security information and threat intelligence so that they can bring proper context to cybersecurity professionals.

How should ASEAN countries approach the development of regulatory frameworks for generative AI in cybersecurity? What balance should be struck between fostering innovation and ensuring strict security standards?

ASEAN countries should adopt a risk-based approach to regulation, focusing on mitigating potential risks while allowing flexibility for innovation.

Establishing clear guidelines for transparency and accountability ensures organisations are responsible for their AI systems.

Collaboration among member states to develop harmonised frameworks will facilitate cross-border cooperation. Encouraging sandboxing and pilot programmes fosters innovation while minimising risks.

Regular reviews and adaptations of regulatory frameworks will help keep pace with advancements in AI and cybersecurity.

Also aligning with international standards like NIST and ISO frameworks can promote clarity and interoperability.

Given the cross-border nature of cyber threats, what collaborative strategies do you recommend for ASEAN nations to effectively share threat intelligence and coordinate responses using generative AI?

To effectively combat cross-border cyber threats, ASEAN nations should develop a secure, centralised platform for sharing threat intelligence, leveraging generative AI for analysis.

Additional strategies include conducting regular joint cybersecurity exercises and simulations, using AI to generate realistic scenarios and to evaluate collaborative responses; establishing standardised incident response protocols and incorporating AI capabilities to automate and accelerate response coordination; encouraging open communication and collaboration among cybersecurity agencies to foster information sharing; and utilising AI for real-time threat analyses to enable rapid identification and dissemination of critical information across member states.

How can enterprises ensure that the use of generative AI in cybersecurity aligns with ethical guidelines and governance principles, particularly in a region as diverse as ASEAN?

Google developed responsible AI practices and encourages enterprises to adopt these practices for AI use, which address privacy, bias and accountability.

Regular ethics audits can assess compliance, while promoting diversity and inclusivity in AI development and minimising biases. Engaging stakeholders in ethical discussions and providing comprehensive training on ethical AI use further promote responsible practices.

As cyber threats continue to evolve, what are the key considerations for future-proofing cybersecurity measures with generative AI? How can ASEAN countries stay ahead in this rapidly changing landscape?

To future-proof cybersecurity measures with generative AI, ASEAN countries should invest in AI research and seek trusted partners for cybersecurity solutions, cultivate an AI-ready workforce, adopt a proactive approach to threat anticipation and mitigation, foster collaboration and information sharing, and actively participate in international cybersecurity initiatives.

This approach will enable them to stay ahead in the rapidly evolving cyber threat landscape.

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ACIOA
ASEAN Chief Information Officer Association

Striving towards executable sustainable solutions

A wholly-owned subsidiary of Singapore Exchange (SGX Group), **Energy Market Company (EMC)** operates Singapore's wholesale electricity market, which was the first liberalised electricity market in Asia. All of Singapore's electricity is bought and sold through EMC.

As **CEO of EMC, Toh Seong Wah** drives the efficient management of Singapore's wholesale electricity market operations. A change catalyst with commercial foresight, he has put EMC on a steady growth trajectory by developing organisational capabilities and expanding into new geographical and service markets.

Under his leadership, EMC has launched and executed key initiatives such as the Market Advisory Panel, electricity procurement portal PowerSelect, and a landmark demand response programme, all of which helped propel Singapore's energy landscape to new heights in market efficiency and competitiveness.

Toh was a panel speaker for a plenary discussion on the collaborative strategies for green transformation and water sustainability in ASEAN on day one of the 8th ASEAN CIO Forum. We had the opportunity in seeking his perspectives and insights based on the following questions.

How is EMC collaborating with other organisations or governments in ASEAN to drive long-term sustainability and green transformation?

As the key intermediary, EMC connects Singapore's energy industry, acting as a bridge between electricity producers, consumers, and regulators.

We understand the challenges the industry faces, whether it's importing 6 gigawatt of low-carbon electricity by 2035, achieving Singapore's 2050 net-zero targets, delivering shareholder profits, or exploring low-carbon alternatives. EMC collaborates with the industry to consult on and develop innovative solutions, such as long-term energy modelling to forecast future energy demands.

Additionally, we organise regular industry-wide events, fostering open communication and strengthening connections across the sector.

What roles do advanced technologies play in helping enterprises achieve their sustainability goals?

Technologies play a crucial role in helping organisations achieve their sustainability targets. One example is the incorporation of district cooling systems in commercial buildings and, more recently, in Singapore's residential estates. The Marina Bay District Cooling network, which supports Singapore's iconic Marina Bay Sands, is the world's largest underground district cooling network. This solution not only reduces carbon emissions but also provides cool comfort to visitors. Following its success, the system was extended to residents in the Tengah housing estate last year.

Another example is the adoption of climate-first technologies in port management, where smart energy management systems use sensors to collect data on building behaviour, such as temperature, humidity, light intensity, and carbon dioxide concentrations. This data is used to predict future resource usage, allowing for greater energy efficiency.

Toh (third from right) in a plenary discussion on day one of the 8th ASEAN CIO Forum

The building employing these systems was awarded the prestigious Green Mark Award (Platinum) under the Super Low Energy Building category by Singapore's Building and Construction Authority.

What is EMC's environmental, social and governance (ESG) strategy, and what are some of the key challenges you face when ensuring compliance and fostering innovation?

EMC is committed to supporting the industry's ambitions in achieving its sustainability objectives. As a trusted partner, we foster collaboration by providing data, tools, and connecting stakeholders to drive meaningful industry discussions.

In partnership with Singapore's Energy Market Authority (EMA) and the broader industry, EMC plays a key role in updating market rules and improving systems to integrate solar energy, electricity imports, and more recently, energy storage systems into the market.

The key challenge is to build a knowledgeable and collaborative ecosystem where industry participants can come together to learn from one another. EMC engages the industry through various events, including our biennial roundtable and monthly forums, to share market trends and best practices.

Looking ahead, what do you believe are the most critical actions needed from both the public and private sectors to accelerate ASEAN's transition to a sustainable future? How is EMC preparing to contribute to these efforts?

Singapore has committed to achieving net-zero emissions by 2050 and recently raised its target to import 6 gigawatt of low-carbon electricity, up from 4 gigawatt, by 2035. However, there is still a long way to go in meeting both targets.

ASEAN countries face similar challenges, and while their solutions may differ, the shared goals of net-zero emissions and energy transition are universal.

As organisations continue to innovate and develop new solutions, it is crucial for the industry in both Singapore and ASEAN to collaborate and work together. Decisions must be data-driven and widely consulted to ensure effective outcomes.

EMC is committed to supporting this effort by providing in-depth market insights and fostering a resilient, sustainable energy market through deeper industry engagement.

This newsletter was made possible with the generous support of our esteemed sponsors. Their commitment and partnership are instrumental in delivering valuable insights and perspectives to our delegates and readers. Thank you for your continued support and dedication.

Google Cloud Security: Mandiant is a recognised leader in dynamic cyber defence, threat intelligence and incident response services. By scaling decades of frontline experience, Mandiant helps organisations to be confident in their readiness to defend against and respond to cyber threats. Mandiant is now part of Google Cloud. Google Cloud accelerates every organisation's ability to digitally transform its business and industry. It delivers enterprise-grade solutions that leverage Google's cutting-edge technology, and tools that help developers build more sustainably. Customers in more than 200 countries and territories turn to Google Cloud as their trusted partner to enable growth and solve their most critical business problems.

ST Engineering is a global technology, defence and engineering group with a diverse portfolio of businesses across the aerospace, smart city, defence and public security segments. The Group harnesses technology and innovation to solve real-world problems, enabling a more secure and sustainable world. Headquartered in Singapore, it has operations spanning Asia, Europe, the Middle East and the U.S., serving customers in more than 100 countries. ST Engineering reported revenue of over $10b in FY2023 and ranks among the largest companies listed on the Singapore Exchange. It is a component stock of MSCI Singapore, FTSE Straits Times Index and Dow Jones Sustainability Asia Pacific Index.

Headquartered in Sunnyvale, California, **Azul** provides the Java platform for the modern cloud enterprise. Azul is the only company 100 per cent focused on Java. Millions of Java developers, hundreds of millions of devices and the world's most highly regarded businesses trust Azul to power their applications with exceptional capabilities, performance, security, value, and success. Azul customers include 36 per cent of the Fortune 100, 50 per cent of Forbes top-10 World's Most Valuable Brands, all 10 of the world's top-10 financial trading companies and leading brands like Avaya, Bazaarvoice, BMW, Deutsche Telekom, LG, Mastercard, Mizuho, Priceline, Salesforce, Software AG and Workday.

Eclypsium's cloud-based platform provides digital supply chain security for critical software, firmware and hardware in enterprise infrastructure. **Eclypsium** helps enterprises and government agencies mitigate risks to their infrastructure from complex technology supply chains.

Hitachi Vantara is transforming the way data fuels innovation. A wholly owned subsidiary of Hitachi Ltd., Hitachi Vantara provides the data foundation the world's leading innovators rely on. Through data storage, infrastructure systems, cloud management and digital expertise, the company helps customers build the foundation for sustainable business growth.

Based in Singapore, **OneT Solutions** is a homegrown IT company offering a wide range of enterprise solutions and consulting services that meet the ever-changing demands of the industry. Its professional team of sales and consultants are certified and trained experts in their respective domains. OneT Solutions has worked with numerous clients in the financial, telecommunications and government sectors to overcome the challenges faced in their digital transformation journey.

Axway enables enterprises to securely open everything by integrating and moving data across a complex world of new and old technologies. Axway's API-driven B2B integration and MFT software, refined over 20 years, complements Axway Amplify, an open API management platform that makes APIs easier to discover and reuse across multiple teams, vendors, and cloud environments. Axway has helped over 11,000 businesses unlock the full value of their existing digital ecosystems to create brilliant experiences, innovate new services, and reach new markets.

EfficientIP is a network security and automation company specialising in DNS, DHCP and IPAM, collectively known as DDI Technology. It promotes business continuity by making IP infrastructure foundation reliable, agile and secure. Since 2004, EfficientIP has continued to expand its reach internationally, providing solutions, professional services, and support all over the world with the help of select business partners. Its passionate teams have delivered successful projects to over 1,000 customers globally and ensured operational efficiency through dedicated customer care.

Menlo Security protects organisations from cyber threats that attack web browsers. Menlo Security's patented Cloud-Browser Security Platform scales to provide comprehensive protection across enterprises of any size, without requiring endpoint software or impacting the end user-experience. Menlo Security is trusted by major global businesses, including Fortune 500 companies, eight of the ten largest global financial services institutions, and large governmental institutions. The company is backed by Vista Equity Partners, Neuberger Berman, General Catalyst, American Express Ventures, Ericsson Ventures, HSBC, and JPMorgan Chase. Menlo Security is headquartered in Mountain View, California.

The Southeast Asia Plus Technology Entrepreneurs' Network (**SEAPTEN**) is a Manila-based organisation dedicated to empowering tech entrepreneurs through collaboration with groups such as the ASEAN and Philippine CIO Association. SEAPTEN aims to link together the public and private sectors of ASEAN countries and other interested nations to explore collaboration on technology and related ventures, particularly in the realm of information and communications technology (ICT) and public private partnerships (PPP).

Funded by world-class investors, including Evolution Equity Partners, Silver Lake Partners, Sequoia Capital, GV, Riverwood Capital, and others, **SecurityScorecard** is the global leader in cybersecurity ratings, response, and resilience, with more than 12 million companies continuously rated. Founded in 2014 by security and risk experts Dr. Aleksandr Yampolskiy and Sam Kassoumeh, SecurityScorecard's patented security ratings technology is used by over 25,000 organisations for enterprise risk management, third-party risk management, board reporting, due diligence, cyber insurance underwriting, and regulatory oversight.

As a leader in providing technology-enabled business services, **Trends** helps businesses navigate digital transformation and business adaptation through a wide range of solutions, including cybersecurity, cloud adoption, managed services, IT consulting, network infrastructure, data centre infrastructure, IT computing, enterprise applications, and converged access, among other capabilities.

The ASEAN CIO Association (ACIOA) is a non-profit organisation formed in 2014 to provide the platform for greater collaboration and sharing of ICT best-practices amongst CIOs, industry leaders and public sector representatives. ACIOA recognises the immense value of business relationships in the highly technical field of information systems management, believing the development of an active community of ICT leaders is key to ASEAN's success in the digital age.

ACIOA offers a diverse array of activities, programmes and resources to support ASEAN ICT leaders with opportunities for information sharing and education at the executive level. Through monthly meetings, ASEAN CIO Forums, strategic partnerships with regional ICT associations as well as resources like CIO Consulting and Business Bridge, ACIOA enables CIOs to build invaluable personal alliances and tap on the expertise of accomplished ASEAN ICT leaders.

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AI, blockchain, decentralisation, metaverse, robotics, space tech, quantum computing and Web3 – these are among the group of deep technologies that are imminent on the horizon and inextricably entwined with all the activities of business and organisations. Deeptech Times was founded to offer enterprises, business leaders and policy makers a lens through which they can better understand the progress of these technologies and their consequent issues so that they can make informed decisions.

Deeptech Times offers industry news, features and interviews that are insightful and analytical, across various multimedia formats including text, video, audio, graphics and experiential events; bringing trusted journalism and information to help business leaders navigate the deep tech landscape with confidence.

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