News Release

UOB's new AI anti-money laundering solution helps the Bank cut through large volumes of transactions to pinpoint suspicious activities

UOB's AI solution sieves through an average of more than 5,700 transaction alerts each month to flag cases that are more likely to be suspicious with an overall true positive prediction rate of 96 per cent

Singapore, 3 December 2020 – UOB has pioneered an artificial intelligence (AI) solution that is highly accurate in identifying suspicious transactions and connected parties as it combats the increased sophistication in financial crime. UOB is the first Singapore bank to apply AI concurrently to two anti-money laundering (AML) risk dimensions – transaction monitoring and name screening. The Bank's use of AI enables it to pinpoint higher-priority cases from the more-than-5,700 average monthly suspicious transaction alerts[1] flagged and to deploy the necessary resources swiftly to investigate potential money laundering attempts.

Through the solution, the Bank can spot more sophisticated transaction patterns and is more effective at connecting data points with entities using the financial system. Once the AI solution flags suspicious activity, the Bank's compliance officers step in to conduct in-depth investigations into those transactions and to submit reports to the authorities in the shortest possible time, increasing the chances of halting criminal activity. UOB's new solution is also better able to learn from new money laundering methods and to prevent them from being successful. The Bank is using the AI solution to screen all customers and transactions involving Singapore-based UOB accounts and is expanding the solution to cover all UOB accounts globally.

Mr Victor Ngo, Head of Group Compliance, UOB, said, "At UOB, we made early investments in artificial intelligence and began our AML proof of concept two years ago. Our AI solution works concurrently on two AML risk dimensions, which is technically more difficult, but also more fruitful as it helps us to pinpoint criminals trying to pose as customers. UOB will continue to invest in advanced technology to strengthen our AML system to deal with emerging risks."

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[1] A suspicious transaction alert may flag a single transaction or a set of inter-related transactions. UOB processes a total of about 30 million transactions every month.

Since its implementation, UOB's new AI solution has proven an overall true positive prediction rate of 96 per cent in the 'high priority' category[2]. The highest of three priority tiers, the 'high priority' category contains transactions and accounts that are deemed most likely to be suspicious and are therefore subject to earlier and more thorough investigations. The AI solution also screens 60,000 account names monthly to determine if they belong to the individuals or entities on global regulatory watch lists.

UOB's initiative is built on the back of the Monetary Authority of Singapore's strong encouragement for financial institutions to leverage technology to combat money laundering and terrorist financing risks. For instance, the use of data analytics can help improve the detection and disrupt criminal behaviour, leading to better support of legitimate businesses. As more financial institutions implement enhanced detection capabilities, coupled with close public-private collaboration in targeting key risks, the financial system will continue to enhance its resilience to financial crime.

Upping the ante with AI

The smarter use of AI to stop illicit money flows comes at a time[3] when criminals are finding ways to evade detection by the traditional rules-based method for doing AML checks. For example, to circumvent traditional rules based on flow-through activity[4] or static transaction size thresholds, criminals may transfer smaller amounts over a longer time.

UOB's new AI solution, underpinned by machine learning and greater computational power, complements the traditional rules-based method, which remains the first line of defence in identifying potentially high-risk customers and transactions. The solution will continue to sharpen its detection capabilities over time, as the model responds to changes in customer risk profiles, behaviours and transaction patterns. The AI solution also identifies links that were harder to spot in the past. For example, it can identify a customer's

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[2] This means that 96 per cent of cases that the AI solution places in the 'high priority' category which it deems high risk turn out to be actual suspicious cases meeting the threshold that requires the Bank to report them to the authorities.

[3] In a report published in June 2020, the intergovernmental group Financial Action Task Force (FATF) cited the growth in virtual assets globally as a factor that has given rise to "a more sophisticated disguise of the origins of funds" by money launderers. The FATF is a global money laundering and terrorist financing watchdog formed by G7 countries to review money laundering techniques globally and to make recommendations to governments.

[4] Flow-through activity refers to depositing money in an account before withdrawing it almost immediately.

connection to a high-risk individual – such as a convicted drug trafficker – even if the customer were not considered high-risk.

Co-created the solution with home-grown RegTech company Tookitaki

UOB's new AI solution was developed in collaboration with Singapore-based regulatory technology (RegTech) company, Tookitaki Holdings Pte. Ltd. (Tookitaki), after more than two years of rigorous validation and evaluation[5].

The tests, carried out in a real banking environment through the use of Tookitaki's Anti-Money Laundering Suite on sample transactions, verified that the AI processes were effective and were applied responsibly and ethically. UOB also ensured that the AI solution met the Bank's governance frameworks, the Singapore Government's Model AI Framework[6] and the AI RegTech Model Management Framework[7] developed collaboratively by UOB and Deloitte.

Mr Abhishek Chatterjee, Founder and CEO of Tookitaki, said, "Going live with UOB is a testament to our ability to develop and to harness the benefits of new-edge technologies such as machine learning to mitigate real-world problems of money laundering. We were able to showcase the stability of our AI models over time and in dynamic situations, while explaining the decision-making process of the models in a comprehensive yet simple manner through our patent-pending Explainable AI framework. We also ensured the AI processes were effective, efficient and were applied in a responsible and ethical manner. At a time when many AI projects end up in laboratories, going live with stellar results at one of Asia's leading banks underlines the agility, scalability and robustness of the Tookitaki Anti-Money Laundering Suite."

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[5] The proof of concept for the solution was first established in 2018. See joint UOB-Tookitaki announcement here: UOB and Tookitaki strengthen combat against money laundering through co-created machine learning solution, 24 August 2018

[6] The Model AI Framework was first released in January 2019 at the World Economic Forum meeting in Davos, Switzerland, by the Personal Data Protection Commission of Singapore and the Infocomm Media Development Authority of Singapore. The second edition of the framework was released on January 2020, and can be accessed at: http://go.gov.sg/AI-gov-MF-2

[7] UOB and Deloitte collaborated to develop the AI Model Management Framework in financial crime compliance. Designed to guide the implementation of machine learning models, the framework lays out important principles in the following areas: model risk management, managing biases, the explainability of models, the application of data privacy and FEAT (Fairness, Ethics, Accountability and Transparency) principles, data management, the assurance and testing of models and incident resolution.

Tookitaki is a graduate of The FinLab's[8] second accelerator programme in 2017. Through The FinLab, UOB provides guidance, resources and mentorship to start-ups and small- and medium-sized enterprises (SMEs) to help them grow their businesses and expand into new markets. The Bank also explores collaborations with these start-ups and SMEs for the Bank's innovation drive.

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About United Overseas Bank

United Overseas Bank Limited (UOB) is a leading bank in Asia with a global network of more than 500 offices in 19 countries and territories in Asia Pacific, Europe and North America. Since its incorporation in 1935, UOB has grown organically and through a series of strategic acquisitions. UOB is rated among the world's top banks: Aa1 by Moody's Investors Service and AA- by both S&P Global Ratings and Fitch Ratings. In Asia, UOB operates through its head office in Singapore and banking subsidiaries in China, Indonesia, Malaysia, Thailand and Vietnam, as well as branches and representative offices across the region.

Over more than eight decades, generations of UOB employees have carried through the entrepreneurial spirit, the focus on long-term value creation and an unwavering commitment to do what is right for our customers and our colleagues.

We believe in being a responsible financial services provider and we are committed to making a difference in the lives of our stakeholders and in the communities in which we operate. Just as we are dedicated to helping our customers manage their finances wisely and to grow their businesses, UOB is steadfast in our support of social development, particularly in the areas of art, children and education.

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[8] The FinLab is UOB's innovation accelerator and is a joint venture between the Bank and SGInnovate.