

BIS Project Aurora finds shared machine learning detects money laundering networks better

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Project Aurora: the power of data, technology and collaboration to combat money laundering across institutions and borders

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Money laundering is a global problem that undermines the integrity and safety of the global financial system. The amount of money laundered globally is estimated to be between 2 and 5% of global GDP, or between \$2 trillion and \$5 trillion (based on current global GDP). However, the estimated total sum seized annually amounts to less than 1% of those estimates. Compliance costs for financial institutions have also risen, driven by anti-money laundering regulations and evolving criminal threats.

The current anti money laundering (AML) approach employed by financial institutions to monitor transactions for suspicious activities is done in a siloed way. This approach is ineffective, because money launderers exploit the interconnected and complex financial systems across financial institutions and borders, which allows them to hide illicit funds.

Leveraging data, technology and collaboration could improve AML efforts through collaborative analysis and learning, while upholding data protection, privacy and information security. To effectively combat money laundering, a holistic network view of payment data is crucial.

The Financial Action Task Force (FATF) has identified that data-sharing and collaborative analytics are critical for effective AML and countering the financing of terrorism efforts. In addition, the G20 leaders endorsed a Roadmap for enhancing cross-border payments in 2020. As part of this roadmap, the FATF is also considering updating its recommendation 16 (the travel rule) to reflect developments in the architecture of payment systems, including the adoption of ISO 20022 messaging standards.

It is essential to recognise that data privacy and protection, along with countering financial crime are important public interests. These objectives are not mutually exclusive but can be mutually reinforcing when they are supported by the right technologies and a balanced legal framework.

Project Aurora is a proof of concept (PoC) that explores the use of privacy-enhancing technologies, machine learning and network analysis in collaborative analysis and learning (CAL) approaches for detecting money laundering activities. It involves three parts:

Generating a synthetic data set that represent transactions within and across borders with embedded patterns of

money laundering activities. The data set contains a minimum set of data points.

Test different monitoring scenarios (siloeed, national, and cross-border) with machine learning models and network analysis.

Test the application of privacy-enhancing technologies on the data set with machine learning and network analysis to support privacy, data protection and information security in different collaborative analysis and learning (CAL) approaches.

Project Aurora demonstrates the advantages and potential of using payments data in combination with privacy-enhancing technologies, machine learning models and network analysis for the detection of complex money laundering schemes.

The project also simulates how these data and technologies could be brought together to enable public-private collaborative analysis and learning (CAL) arrangements, both nationally and internationally, to counter money-laundering.

The project demonstrates that CAL approaches are more effective in detecting money laundering networks than is the current siloeed approach (in which financial institutions carry out analysis in isolation).

The project highlights additional considerations for combating money laundering and describes how the key takeaways can be leveraged and rolled out to future payments networks and data.

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Project Aurora

Video

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Project Aurora

The power of data, technology and collaboration to combat money laundering across institutions and borders.

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