

ASX Announcement ([ASX: AXE](#))

18 March 2026

Archer to commence Quantum Machine Learning simulations and benchmarking

Highlights

- Financial dataset containing more than 280,000 bank transactions identified to support development of a quantum machine learning (QML) model for fraud detection.
 - Significant work was undertaken to preprocess the dataset to ensure compatibility with current quantum computing constraints.
 - With dataset preparation complete, the project is moving to QML simulations and benchmarking, with initial indications of algorithm performance expected by mid-year and a full QML prototype targeted by year-end.
 - The QML project helps Archer in the development and expansion of its commercialisation pathways for its suite of quantum technologies.
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Archer Materials Limited (“Archer”, the “Company”, “ASX: AXE”), a quantum company developing technologies in computing, sensing, and medical diagnostics, provides a progress update on its QML research project for financial fraud detection, which includes identifying a suitable financial dataset to support development of a QML model for fraud detection.

The QML project commenced in January 2026 and will focus on developing QML algorithms to enhance the detection of fraudulent activities in financial transactions, with initial outcomes including prototype quantum models and performance benchmarks across financial datasets.

The team identified a publicly available dataset of over 280,000 bank transaction records. The dataset consists of bank fraud transactions and has previously been used in classical machine learning research. This is important as the team need to ensure benchmarking can be performed against traditional machine learning algorithms,

Given the limited number of qubits (quantum information processing power) available on present-day quantum systems, techniques have been applied to reduce data complexity while preserving key features required for model training. This approach is standard in both quantum and classical machine learning research.

QML is an emerging quantum application that uses quantum computing to analyse complex datasets. As quantum hardware develops, QML has the potential to provide faster processing and improved optimisation for certain data analysis tasks compared with classical machine learning techniques. Financial fraud detection is such an application that will benefit from such approaches.

With dataset preparation completed, the project is transitioning to the next phase, QML simulations and benchmarking. By mid-year, this work will provide initial indications on algorithm performance for fraud detection and provide the basis for a full QML prototype to be ready by the end of the year.

Commenting on the progress of the QML fraud detection project, Dr Simon Ruffell, CEO of Archer, said:

“We have made significant progress with the QML fraud detection project. We are now working towards getting the initial results mid-year for a prototype to be ready by the end of this year.

“The project forms part of Archer’s broader strategy to explore practical applications of quantum computing in real-world data environments. Development of prototypes of QML-based software, through projects like this one, are key to Archer’s development and broadening of commercialisation pathways for the technology.”

The Board of Archer authorised this announcement to be given to ASX.

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About Archer

Archer is a quantum technology company that operates within the semiconductor industry. The Company is developing advanced semiconductor devices, including chips relevant to quantum computing, sensing, and medical diagnostics. Archer utilises its global partnerships to develop these technologies for potential deployment and use across multiple industries.
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