

HSBC and Quantum

Speaker: Philip Intallura, Group Head of Quantum Technologies, HSBC

Quantum technology is one of these new capabilities that we've never seen before.

We're talking about a completely different way of processing information using the effects of atomic and subatomic matter like superposition and entanglement and tunnelling.

And what that means is being able to compute certain types of problems much faster than we can do today.

[Text on screen] Transforming Banking

Quantum technology is going to transform banking in two key ways.

The first is it's going to give us access to computational power that we've never been able to access before.

The second key reason is because it's going to completely transform the way we think about cybersecurity.

Because one of the things that a quantum computer will be able to do in the future, at sufficient size and scale, is it's going to be able to break much of the cryptography that we use and rely on today.

What we're really looking to do is understand where we can apply quantum technology as it evolves and be ready to apply it to different parts of our business models in order to achieve advantage.

[Text on screen] Fraud Detection

One particular use case that I'm really excited about is quantum machine learning for fraud detection.

Banks are top targets for cyber criminals, and therefore there's a significant billions of dollars of loss every year.

And we have very sophisticated models today which try to differentiate between what's a genuine transaction and what's a fraudulent transaction.

Now, if we can apply quantum techniques to enhance the precision of those models by just a couple of percentage points, it's going to have a huge impact on that value.

[Text on screen] Collaboration

HSBC is one of the most recognised groups in the world for its adoption of quantum technologies.

Even when quantum wasn't really a topic, we took the bold move to actually start exploring this technology.

We've established an ecosystem of about 50 collaborators and partners, from academia and start-ups, all the way through to big technology players.

We're happy to share with the world what we're doing, particularly if it catalyses others to start looking at this more seriously, particularly on the defence side.

Because when it comes to defence, if there's one weak link in the chain, it's going to cause a problem for everyone.

[Text on screen] Quantum and Customers

The question of when a quantum computer is coming is probably the million dollar question.

It's the question I get asked the most.

The race is literally on to transition from much of the cryptography that we use today, which is not quantum secure, to new protocols and new methods that are robust and resilient against quantum computing attacks.

Ultimately for customers, what quantum is going to mean is more efficient services.

So, for example, if we can more efficiently optimise our portfolios, it could result in greater returns for our customers without increasing the risk or cost associated with managing that portfolio.

This is one of the most incredibly exciting and impactful use cases that I can think of right now for financial services.

[Text on screen] HSBC | Opening up a world of opportunity