



# ACCENTURE QUANTUM COMPUTING

## VIDEO TRANSCRIPT

Speaker 1: Carl Dukatz – Managing Director Next-Gen Compute, Accenture

Quantum computers have the potential to revolutionize a wide range of industries and Accenture's at the forefront of this technology. We focus on education advisory strategy on quantum as well as quantum algorithms and applications. Quantum computing communication and sensing technologies offer unique capabilities that businesses are exploring to improve their ability to do machine learning, optimization and chemistry problems. Our mission is to understand and contribute to the latest advances in these technologies and test them with real world problems. Accenture's quantum team consists of quantum information scientists and quantum application integrators. In addition, we employ industry specialists, application developers, and designers to bring quantum applications to life.

Speaker 2: Shreyas Ramesh – Senior Manager Next-Gen Compute, Accenture

Here at Accenture, we've created a lot of applications across every industry. One of these applications is in the financial services sector, and it's the quantum computing financial fraud detection application. The core of fraud prediction demo is based on gate based quantum machine learning algorithm. It uses a technique for quantum support, vector machine and quantum kernel estimation to accurately measure the features of fraudulent transactions and separate the fraud transactions from the genuine transactions more effectively than classic and machine learning algorithms. Current models are not able to come up with ale separation of fraudulent transactions from genuine transactions. With quantum machine learning's, advanced data analysis capabilities, it processes very large volumes of dimensions of data clearly separating the fraudulent transactions from the genuine ones efficiently. We're advancing the ML rays from classical ML to quantum ml.

Speaker 3: Hassan Naseri - Senior Manager Next-Gen Compute, Accenture

Accenture is exploring new methods to simulate chemical reactions with high accuracy. Our first application was simulation of PFAS chemicals to find new ways for destroying these chemicals from the environment. 97% of Americans have pfas in their blood now, but in general, we are looking at simulating chemicals and materials at fine grain. At quantum level, this is a very



challenging task we're solving. This problem opens many doors in different application areas, not only for cleanup of the pfas, but also for discovering new drugs, new materials for carbon capture, for recycling, energy stretch everywhere. We need to know what happens in chemistry at quantum mechanical level. We have already ongoing client engagements in this area to provide a strategy and r and d input to the clients. Next steps for us is to expand this into a new business area. We are looking for new collaborative projects to engage with industry and core research or deliver r and d work to our clients.

Speaker 4: Tom Patterson – Managing Director Quantum Security, Accenture

So Accenture is focused on three major areas of defending our clients against the becoming quantum computer capabilities. The first one is helping them develop strategies that lets them understand where they are, how this changes their risk perspective, and what they can are going to need to do about it going forward. The secondary is discovery. Discovery is where we work with them to go out throughout their entire organization, their entire enterprise, and find the vulnerable bits of encryption that are there and categorize them based on risk and they're what they're being used for, what kind of capabilities they're carrying. The third area is remediation. We work in what their clients on a project called Crypto Agility. This is where we don't just put in today's best, but we put in the capability to have that constantly refreshed going forward. Crypto agility is where Accenture is really set apart from others that are just trying to put in an algorithms today and fix today's problem. We really want to fix the problem going forward.

Speaker 5: Marc Carrer-Billard – Lead, Technology Innovation and Accenture Labs

While within Accenture, we are interested in working with many, many parties. I mean, one of the first one is obviously academia as a university to the Rn D activities they're doing. They can help us to accelerate some of the work we're doing with clients and then with our partners. I think the good one is our partners, whether it's Tata from the innovation ecosystem, and mention a few of them like Ion Q, but also one qbi. But chemistry now is like there are many, many that we're working with, and they can also help basically to accelerate some of the apply research that we're doing with our clients. And the last but not the least, is our clients themselves. I mean, we like to sit down with our clients and identify like trick of our problems they have and how we can apply the quantum computing technology to solve them.

Speaker 1: Carl Dukatz – Managing Director Next-Gen Compute, Accenture

Once I learned about its applications in optimization and in machine learning and the ubiquitous nature of quantum computing across all industries, it's just been a flood of new ideas, areas to explore, and examples of wonderful things that I think this technology will bring. So Accenture is a steward and a pioneer in this future. We are embracing it wholeheartedly. We're testing it out. We're educating our workforce and our people on it and endeavor to help our customers, partners, and clients advance this field steadily and grow it respectfully forward.