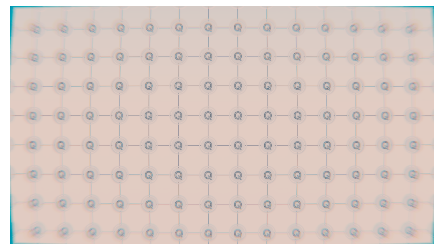
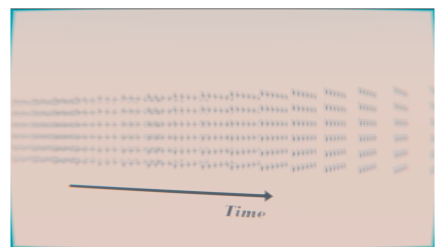
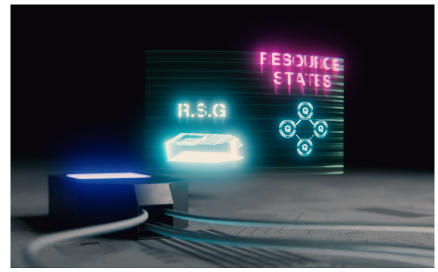
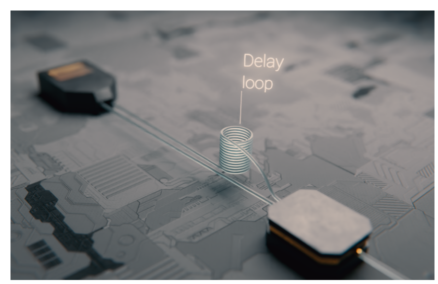
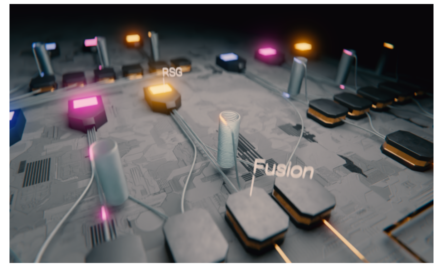
Storyboard

#	Line	visuals	
1	It's very clear that a universal quantum computer will need millions of qubits to be useful.	An impressive room with the quantum computer at the center. Hologram is displaying the qubits. We see errors accumulate as qubits fail and decoherence strikes.	
2	but having that many qubits all at once is just not feasible. So, what's the solution?	Hologram is displaying the qubits. We see errors accumulate as qubits fail and decoherence strikes.	
3	It's all about spreading those qubits out along the timeline of the computation so that only several hundred of them exist at any given moment. Hundreds of qubits may not sound like a lot but if you use them to perform computations at one hundred hertz, you get yourself a million-qubit computation.	We see a small cluster of photonic qubits, with something like a 10 by 10 grid. As the cluster rotates we see a third dimension. An arrow axis is labeled 'time'.	

4	To better understand how this can be achieved, let's take a look at the general layout of such a computer.	We dive into the computer.	
5	It all starts here with these amazing resource state generators (R.S.Gs) that repeatedly produce entangled states. These entangled states are then delivered to the fusion devices that stitch them together, resulting in clusters of qubits that are all entangled with each other.	We see a single RSG with several waveguides. A hologram produced from the RSG shows a 2D diagram that symbolizes what it's producing: a resource state simplified as 4 entangled qubits.	
6	A scene with two RSGs, each with one waveguide, leading to the same fusion device. A 2D hologram out of the fusion device shows the entanglement that is formed between 2 resource states. The result is labeled "cluster state"	A scene with two RSGs, each with one waveguide, leading to the same fusion device. A 2D hologram out of the fusion device shows the entanglement that is formed between 2 resource states. The result is labeled "cluster state"	
7	But we don't stop there - we also want these clusters to be entangled with states that will be produced later in time. That's where the delay loops come in. By using delay loops, which are essentially super-long waveguides, we can send some of the photons on a little journey to arrive later at the fusion device. This way, they can be entangled with a state from the next clock cycle	We see the triad of RSGs with a delay loop. The fusion device next to the loop shows a cluster state turn 3D and fuse with another cluster.	

8	-The metaphor we choose goes here-		
8	By repeating this method with many RSGs and lots of fusion devices, we can create a massive cluster of qubits that can be fed to the processor slice-by-slice until we get a huge computation.	We show an array of RSG's and fusion devices working hard like a factory line for quantum computing. We turn to the processor to see a hologram showing the fully stitched clusters being translated to classical bits.	
9	With this approach, we can perform a million-qubit calculation with only hundreds of qubits at a time. Thus making the universal quantum computer - a reality!	We come out of the computer. The screen shows the message "computation solved!"