

Connected DMV is an initiatives-based, nonprofit organization that works with regional organizations across Washington D.C., Maryland, and Virginia founded in 2019.

It wants to improve how the DMV lives, learns, works, and prospers. For making it work, public, private, academia, and the community collaborate to improve the economic health and social equity.

Potomac Quantum Innovation Center (PQIC) was created by Connected DMV with the goal of making the DMV region the first hub of quantum leadership, innovation and economic development across quantum computing – sensing – communication and materials. Ultimately selling the technology is also a will.

PQIC works on applications in 4 main quantum technology domains:

- Computing: Ability to manipulate quantum states, simulate complex systems or store and process data as qubits in a quantum computer.
- Sensing: using the extreme sensitivity of quantum states to create a measuring instrument.
- Communications and cryptography: The encryption used today is based on mathematical problems presumed to take an enormous amount of time to calculate. However, with quantum computers, it will be easy to solve it quickly. A solution based on quantum particles is already used.
- Materials: novel and exotic material properties enable controllable and robust devices and systems.

PQIC is focused in life sciences, energy and environment, transportation and space technology, and national security. It is not only a laboratory, but there is also PQIC academy, they are doing a summer immersion program and a world congress between 29th November to 1st December.

Mission

Innovation, talent development, economic growth, and positive social impacts are all goals of the PQIC.

Why Washington?

It has the research ecosystem, the industry alignment, and a federal government presence.

There is unfortunately a lack of a mechanism to bring the effort together to accelerate the quantum ecosystem foundation.

What is a quantum computer?

It is a computer that uses quantum physics to store data and perform computation. The way the data is encoded is different from a digital computer.

Digital computing works with bits (0 or 1)

Quantum Computing works with Qbits which can be a superposition of 0 AND 1.

George Thomas: Chief Innovation Officer

A leader and adviser to public and private sector organizations. He created a company named New Urban Informatics. For several years he worked for IBM.

George is a recognized industry expert at the intersection of technology and business in areas such as cybersecurity, cognitive computing, deep analytics, Smart Cities, Blockchain, quantum sciences and computing, IIOT, and Cloud.

References:

Connected DMV

<https://www.linkedin.com/company/connecteddmv/about/>

<https://www.connecteddmv.org/our-people>

How Federal Investment in Quantum Affects State?

<https://www.govtech.com/products/how-federal-investment-in-quantum-affects-state-local-gov>

Potomac Quantum Innovation Center

<https://www.pqic.org/about>

Quantum computing

<https://www.chalmers.se/en/centres/wacqt/discover/Pages/Quantum-computing.aspx>

Quantum sensing

<https://www.chalmers.se/en/centres/wacqt/discover/Pages/Quantum-sensing.aspx>

Quantum communication

<https://www.chalmers.se/en/centres/wacqt/discover/Pages/Quantum-communication.aspx>

Quantum Cryptography

<https://www.youtube.com/watch?v=uiiaAJ3c6dM>

Quantum Materials

<https://mqa.umd.edu/focus-areas/materials>

IIoT : Industrial internet of things

<https://www.techtarget.com/iotagenda/definition/Industrial-Internet-of-Things-IIoT>