SENATE BILL REPORT
SB 5451

As of January 29, 2025

Title: An act relating to the advancement of quantum economic development.

Brief Description: Concerning advancement of quantum economic development.

Sponsors: Senators Slatter, Boehnke, Nobles, Shewmake and Stanford.

Brief History:
Committee Activity: Business, Financial Services & Trade: 1/29/25.

Brief Summary of Bill

- Establishes an advisory committee to advance the economic development of quantum technologies.
- Specifies the composition and duties of the committee and requires the Washington State Department of Commerce to provide staff and direction for the committee.
- Requires the Washington State Department of Commerce to establish a grant program, subject to legislative appropriation, to support applicants for federal grants related to quantum technology.

SENATE COMMITTEE ON BUSINESS, FINANCIAL SERVICES & TRADE

Staff: John Kim (786-7453)

Background: Quantum Technology. Quantum technology is technology using the principles of quantum mechanics, which are the laws of physics applying to subatomic particles. Some current technologies that have a basis in quantum science include the Global Positioning System or GPS, magnetic resonance imaging or MRI, semiconductors, and lasers for telecommunications.

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Applications of quantum technology under research and development include quantum computing, secure communication, quantum data networks, and quantum sensors in fields such as positioning systems, communication technology, electric and magnetic field sensors, and gravimetry and geophysical research. Some applications of quantum computing include quantum simulation, cryptography, optimization algorithms, quantum machine learning, and search.

Legislation. In 2018, the federal National Quantum Initiative Act (NQIA) was enacted, which established a plan for advancing quantum technology. The NQIA authorized quantum research activities for the National Institute of Sciences and Technology, the National Science Foundation, and the United States Department of Energy.

States that have enacted legislation relating to quantum technology include Colorado, Illinois, New Mexico, South Carolina, and South Dakota.

Entities. The Pacific Northwest National Laboratory is a national laboratory of the United States Department of Energy. Its main campus is in Richland, Washington, with additional research facilities around the country.

The Northwest Quantum Nexus is a public-private consortium formed in 2019, with objectives including forming public-private research teams and partnerships and cultivating a workforce in quantum science, engineering, and technology. Members have included the Pacific Northwest National Laboratory, Amazon Web Services, Boeing, Microsoft Quantum, the University of Washington, and Washington State University.

Summary of Bill: Advisory Committee. An advisory committee (committee) is established to advance the economic development of quantum technologies. The committee members must be appointed by the director of the Washington State Department of Commerce (Commerce) and be comprised as follows:

- the Lieutenant Governor or a designee;
- one statewide elected official;
- the director of Commerce or a designee;
- one or more representatives from an institution of higher education;
- two representatives from technology companies with headquarters in the state;
- one representative from an aerospace company with a factory in the state;
- one representative from a company that builds and sells quantum computers and software; and
- one representative from the Pacific Northwest National Laboratory.

Commerce must provide direction and ensure accountability for the committee through its information technology sector lead within the Office of Economic Development and Competitiveness. Commerce must also provide staff for the committee.

The committee must:

- select a chair from among its membership;
- meet at least quarterly, with the initial meeting no later than August 1, 2025;
- produce an annual report to the Legislature with recommendations to competitively promote a quantum technology ecosystem in the state; and
- produce a workforce development plan.

The committee expires on June 30, 2027.

Grant Program. Commerce, through its Office of Economic Development and Competitiveness, must establish a grant program to support eligible applicants for federal grants related to quantum technology. Commerce must award grants on at least an annual basis. The grant program is subject to the availability of amounts appropriated by the Legislature for this specific purpose.

Commerce must partner with an institution of higher education with a research program in quantum technology and may consult with technology companies, the Northwest Quantum Nexus coalition, companies that build and sell quantum computers and software, or the Pacific Northwest National Laboratory to identify relevant federal grants for the state's economic development.

Commerce may adopt rules to implement the grant program, including specifying the manner in which eligible applicants must apply.

Appropriation: The bill contains a section or sections to limit implementation to the availability of amounts appropriated for that specific purpose.

Fiscal Note: Requested on January 24, 2025.

Creates Committee/Commission/Task Force that includes Legislative members: No.

Effective Date: Ninety days after adjournment of session in which bill is passed.

Staff Summary of Public Testimony: PRO: The bill positions Washington as a leader in quantum computing, which has the potential to transform different fields like health care, cybersecurity, and clean energy. The technology requires research and a lot of partnership between academia and industry. If other states and other countries have access to the technology but we are not understanding it, it puts us as risk of being behind. It is important to be able to access federal grants and get advice.

OTHER: We have the research wherewithal to contribute to the intellectual capital of quantum, but we really don't understand the commercial opportunity. The bill sets up a working group that can prepare for the commercialization. Every indication is that the federal government will continue to fund the National Quantum Initiative. We need to be coordinated in order to pursue this funding. We believe there is a fantastic opportunity for

us in Washington.

Persons Testifying: PRO: Senator Vandana Slatter, Prime Sponsor.

OTHER: Joseph Williams, Commerce Department.

Persons Signed In To Testify But Not Testifying: No one.