March 2, 2020

Dear Chairman Moran, Chairman Alexander, Ranking Member Shaheen, and Ranking Member Feinstein,

On behalf of the scientific societies, companies and universities listed below, we are writing to urge continued federal investments in Quantum Information Science (QIS) research and development (R&D). As you know, the National Quantum Initiative (NQI) Act was approved with overwhelming bipartisan support and signed into law by President Trump in December 2018. It established a coordination framework for government agencies to expand QIS R&D, which is critical to our economic and national security. It is now imperative that we work together to make the investments needed to maximize the potential of this framework including establishing the National Quantum Centers.

Specifically for Fiscal Year (FY) 2021, the NPI requests that the Committees consider approving $210 million for the National Science Foundation (NSF), ($10 million each for five quantum centers and $160 million for QIS research), $245 million for the Department of Energy (DOE) Office of Science ($25 million each for five quantum centers and $120 million for QIS research, including $25 million for the DOE Office of Science to support early stage research for Quantum Internet). Additionally, we are requesting $80 million for the National Institute of Standards and Technology (NIST), the amount authorized in the NQI Act. President Trump’s FY 2021 Budget proposed significant increases in this area, which we strongly support. It is critical, however, that these increases do not come at the expense of other important R&D at the science-funding agencies.

With continued federal support, NSF, NIST, and DOE are well positioned to expand their research efforts in QIS. The National Quantum Initiative Centers will conduct basic and applied research, accelerate scientific breakthroughs and train the workforce needed to capitalize on these scientific breakthroughs. Additional federal funds will help engineer, industrialize, and automate quantum technology, including quantum computers, communications/networking systems, and sensors. This support will lay the groundwork for the development of conventional technology and intellectual property needed to bring quantum technology to full fruition.
Quantum research holds tremendous potential for infrastructure management, cybersecurity, medical research and treatment, advanced communications, financial services, and transportation. The NPI applauded federal investments made in quantum research during the last budget cycle. Continuing to fund this important R&D area will ensure that we maintain our role as a global leader in the field and help bridge significant workforce gaps between leading quantum researchers and industrial product developers. Moving quantum research from the laboratory to the marketplace must be a top priority moving forward.

As other countries continue to make significant investments in quantum (reportedly $10 billion in China and $1.3 billion under the European Union Quantum Flagship), it is critical that the U.S. keep pace. We appreciate your commitment to advancing this important research and technology area and look forward to working with you on these requests.

Sincerely,

Atom Computing Inc.
BlockQAI
Bra-Ket Science
Center for Quantum Information and Control (CQuIC), University of New Mexico
The Colorado School of Mines
Cryomech, Inc.
Duke University
Google
Harvard University
Honeywell
HRL Laboratories
IBM
Inrad Optics
Intel Corporation
IonQ, Inc.
Janis Research Company
Lake Shore Cryotronics
Microsoft Corporation
Montana Instruments
Northwestern University
NuCrypt, LLC
NY Center for Research Economic Advancement Technology Engineering Sciences (NY CREATES)
Pittsburgh Quantum Institute
Purdue University
Quantum Circuits, Inc.
Quantum1 Group
Qubitekk
Qunnect
Rochester Institute of Technology
SPIE
SUNY Polytechnic Institute
The Optical Society (OSA)
TOPTICA Photonics
University of Arizona
University of Colorado
University of Illinois at Urbana-Champaign
University of Maryland
University of Oregon
University of Rochester
University of Southern California
University of Washington
Yale University

CC: Chairman Richard Shelby, Senate Appropriations Committee
    Ranking Member Patrick Leahy, Senate Appropriations Committee