

The Role of the Defense Department in the NQI

It is widely recognized within the defense agencies and the research arms of the military service branches that quantum technology is a crucial component of future readiness, as evidenced by sustained past and present efforts in quantum research by these groups. Ongoing development in quantum technology, with increased support, is needed to meet this challenge. The Department of Defense (DOD) should work together with the civilian science and technology agencies for common benefit. Universities drive scientific innovation; industry produces quantum-based products and systems; and the military defines defense needs and assists in supporting research and development at all levels.

Therefore, we propose that the civilian component of the National Quantum Initiative (NQI) described in “National Quantum Initiative—Action Plan” dated April 3, 2018, will be closely coordinated with existing DOD and Intelligence Community programs in QT. These include the Army Research Laboratory (ARL), the Air Force Research Laboratory (AFRL), and the Naval Research laboratory (NRL), and various Federally Funded Research and Development Centers (FFRDC) and University Affiliated Research Center (UARC) facilities.

The existing DOD programs in quantum science and engineering at ARL, AFRL, and NRL and affiliated FFRDC and UARC facilities will be strengthened in order to attract a QT workforce at these DOD-based laboratories, develop QT of specific need to the DOD, and work closely with the civilian NQI program. The renewed DOD effort will mirror the QILab program with commensurate funding models of roughly \$500 million over 5 years. In parallel, existing exploratory and diffusive quantum research programs administered by the military research offices ARO, AFOSR, and ONR will mirror the QRNet program with roughly \$200 million over 5 years.

These defense components of NQI, totaling \$700 million over the same 5-year phase, would be administered through the DOD and Intelligence laboratories and agencies.