S.3597 BLACKBURN_1 (as modified)

BAG26429 RP2 S.L.C.

Marsha Blackburn

AMENDMENT NO._____ Calendar No._____

Purpose: To require a feasibility study on Manufacturing USA institute for quantum manufacturing.

IN THE SENATE OF THE UNITED STATES—119th Cong., 2d Sess.

S. 3597

To reauthorize the National Quantum Initiative Act, and for other purposes.

Referred to the Committee on _____ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT intended to be proposed by Mrs. BLACKBURN

Viz:

At the appropriate place, insert the following:

SEC. _____. FEASIBILITY STUDY ON MANUFACTURING USA INSTITUTE FOR QUANTUM MANUFACTURING.

(a) DEFINITION OF MANUFACTURING USA INSTITUTE.—In this section, the term "Manufacturing USA institute" has the meaning given such term in section 34(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278s(d)).

(b) STUDY REQUIRED.—The Director of the National Institute of Standards and Technology shall, in consultation with the Secretary of Energy and the members of the Subcommittee on Quantum Information Science and the

Subcommittee on the Economic and Security Implications of Quantum Science, conduct a study on the feasibility of establishing or supporting a Manufacturing USA institute focused on quantum manufacturing, including manufacturing capabilities and activities related to quantum computing (inclusive of all modalities and qubit architectures), quantum sensing, and quantum networking.

(c) CONSIDERATIONS.—In conducting the study under subsection (b), the Director shall, to the maximum extent practicable—

(1) determine the manufacturing capabilities necessary to produce reliable quantum components and systems at scale and identify gaps in access to such capabilities and limited domestic sources;

(2) evaluate the extent to which such capabilities and gaps are already addressed, or could reasonably be addressed, by private industry, existing Manufacturing USA institutes, or other Federal programs;

(3) evaluate existing Federal and non-Federal efforts relating to quantum computing, quantum sensing, and quantum networking to determine whether any proposed Manufacturing USA institute would duplicate or overlap with ongoing activities;

(4) evaluate whether and to what extent barriers to technology development and transition, including those associated with moving from early-stage research to scaled production, are persistent and not already being addressed through private sector investment or existing Federal programs;

(5) evaluate the feasibility of supporting domestic activities that include the capability to design, fabricate, and test materials, devices, structures, and manufacturing processes for quantum technologies or systems;

(6) evaluate the full lifecycle costs of establishing, operating, and sustaining a Manufacturing USA institute for quantum manufacturing, including long-term Federal funding requirements, administrative costs, and risks of cost escalation;

(7) evaluate alternative approaches, including leveraging existing Manufacturing USA institutes, targeted competitive grants, public-private partnerships, or other mechanisms that may more efficiently address identified barriers to technology development and transition; and

(8) evaluate the estimated economic impact associated with the establishment of a Manufacturing USA institute described in subsection (b), including

impacts on regional economies, suppliers, and job growth.

(d) REPORT TO CONGRESS.—Not later than 1 year after the date of the enactment of this Act, the Director shall submit to Congress a report describing the findings of the Director with respect to the study conducted under subsection (b).