

117TH CONGRESS  
2D SESSION

# S. 4138

To develop and implement strategies for research and development for bio-industrial manufacturing and the implementation of additive manufacturing for defense purposes, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

MAY 4, 2022

Ms. DUCKWORTH (for herself and Mr. TILLIS) introduced the following bill;  
which was read twice and referred to the Committee on Armed Services

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## A BILL

To develop and implement strategies for research and development for bioindustrial manufacturing and the implementation of additive manufacturing for defense purposes, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Bioindustrial and Ad-  
5       ditive Manufacturing for America Act of 2022”.

6       **SEC. 2. RESEARCH AND DEVELOPMENT STRATEGY FOR**  
7                               **BIOINDUSTRIAL MANUFACTURING.**

8       (a) STRATEGY REQUIRED.—

1           (1) IN GENERAL.—Not later than two years  
2 after the date of the enactment of this Act, the Sec-  
3 retary of Defense shall—

4                   (A) complete development of a research,  
5 development, and implementation strategy for  
6 bioindustrial manufacturing; and

7                   (B) transmit to the Joint Defense Manu-  
8 facturing Council the strategy developed under  
9 subparagraph (A).

10           (2) CONTENTS.—The strategy required by  
11 paragraph (1)(A) shall include the following:

12                   (A) A roadmap that addresses the work-  
13 force skills needed to support the technologies  
14 covered by the strategy.

15                   (B) Proposals for demonstration projects  
16 to assess relevant concepts, models, tech-  
17 nologies, and engineering barriers.

18                   (C) Proposals for the application of bio-  
19 industrial manufacturing for warfighting capa-  
20 bilities.

21                   (D) Proposals for the application of bio-  
22 industrial manufacturing to achieve agile, resil-  
23 ient, and integrated logistics and sustainment  
24 for distributed operations.

1           (E) Proposals for the application of bio-  
2           industrial manufacturing to establish quality  
3           assurance practices for system and techno-  
4           logical maintenance.

5           (b) SUBMITTAL TO CONGRESS.—Not later than 90  
6           days after the date on which the Secretary has completed  
7           development of the strategy under subsection (a)(1)(A),  
8           the Secretary shall submit to the Committee on Armed  
9           Services of the Senate and the Committee on Armed Serv-  
10          ices of the House of Representatives a copy of the strategy  
11          and such comments as the Secretary may have with re-  
12          spect to such strategy.

13   **SEC. 3. IMPLEMENTATION STRATEGY FOR ADDITIVE MANU-**  
14                                   **FACTURING.**

15          (a) STRATEGY REQUIRED.—

16               (1) IN GENERAL.—Not later than one year  
17               after the date of the enactment of this Act, the Sec-  
18               retary of Defense shall—

19                       (A) complete development of an implemen-  
20                       tation strategy for additive manufacturing; and

21                       (B) transmit to the Joint Defense Manu-  
22                       facturing Council the strategy developed under  
23                       subparagraph (A).

24               (2) CONTENTS.—The strategy required by  
25               paragraph (1)(A) shall include the following:

1 (A) A roadmap that addresses the work-  
2 force skills needed to support the technologies  
3 covered by the strategy.

4 (B) Proposals for demonstration projects  
5 to assess relevant concepts, models, tech-  
6 nologies, and engineering barriers.

7 (C) Proposals for the application of addi-  
8 tive manufacturing for warfighting capabilities.

9 (D) Proposals for the application of addi-  
10 tive manufacturing to achieve agile, resilient,  
11 and integrated logistics and sustainment for  
12 distributed operations.

13 (E) Proposals for the application of addi-  
14 tive manufacturing to establish quality assur-  
15 ance practices for system and technological  
16 maintenance.

17 (F) Proposals for launching pilot programs  
18 in which the Secretary may work with industry  
19 and academic institutions to develop and imple-  
20 ment additive manufacturing standards and  
21 practices.

22 (G) Proposals for the Department to col-  
23 laborate with Defense Agencies and the military  
24 departments through the Joint Defense Manu-  
25 facturing Council and the Joint Additive Manu-

1 facturing Working Group to collectively imple-  
2 ment the strategy developed under paragraph  
3 (1)(A).

4 (b) SUBMITTAL TO CONGRESS.—Not later than 90  
5 days after the date on which the Secretary has completed  
6 development of the strategy under subsection (a)(1)(A),  
7 the Secretary shall submit to the Committee on Armed  
8 Services of the Senate and the Committee on Armed Serv-  
9 ices of the House of Representatives a copy of the strategy  
10 and such comments as the Secretary may have with re-  
11 spect to such strategy.

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