

119TH CONGRESS
2D SESSION

S. 5345

To provide for the delivery of artificial intelligence functional bills of materials, and for other purposes.

IN THE SENATE OF THE UNITED STATES

AUGUST 6, 2026

Ms. SLOTKIN introduced the following bill; which was read twice and referred to the Committee on Armed Services

A BILL

To provide for the delivery of artificial intelligence functional bills of materials, 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. ARTIFICIAL INTELLIGENCE FUNCTIONAL BILL**

4 **OF MATERIALS.**

5 (a) ARTIFICIAL INTELLIGENCE FUNCTIONAL BILL
6 OF MATERIALS.—The Secretary of Defense, in coordina-
7 tion with the Under Secretary of Defense for Research
8 and Engineering, the Under Secretary of Defense for Ac-
9 quisition and Sustainment, the Chief Digital and Artificial
10 Intelligence Officer, and the Chief Information Officer

1 shall revise the Defense Federal Acquisition Regulation
2 Supplement to prohibit the Department of Defense from
3 entering into, renewing, or extending a contract for the
4 procurement of goods or services that utilize artificial in-
5 telligence, unless the contractor—

6 (1) submits to the Chief Digital and Artificial
7 Intelligence Officer an artificial intelligence func-
8 tional bill of materials prior to the award, renewal,
9 or extension of the contract; and

10 (2) maintains the bill of materials such that the
11 contractor can deliver an updated bill of materials to
12 the relevant component of the Department of De-
13 fense within 48 hours of a request for such bill of
14 materials.

15 (b) FORMAT AND CONTENTS OF ARTIFICIAL INTEL-
16 LIGENCE FUNCTIONAL BILL OF MATERIALS.—

17 (1) IN GENERAL.—A functional bill of materials
18 described under subsection (a) shall—

19 (A) include details related to the software,
20 data, and hardware underpinning systems uti-
21 lizing artificial intelligence in accordance with
22 paragraphs (2), (3) and (4) of this subsection.

23 (B) be machine-readable; and

(C) disclose sufficient detail to enable a timely assessment by the Department of Defense of the impact of—

- (i) newly identified vulnerabilities;
- (ii) security risks;
- (iii) integrity concerns affecting software, models, or data; and
- (iv) other newly available risk-relevant information affecting components incorporated into or relied upon by the artificial intelligence system.

(2) MINIMUM REQUIREMENTS FOR SOFTWARE SECTION OF ARTIFICIAL INTELLIGENCE FUNCTIONAL BILL OF MATERIALS.—The software section of the artificial intelligence functional bill of materials required under subsection (a) shall include the following minimum elements:

(A) A description of all models of the artificial intelligence, including—

- (i) pre-trained foundation models;
- (ii) fine-tuned models customized for specific Department of Defense use cases through transfer learning or additional training;

1 (iii) internally trained models, includ-
 2 ing custom architectures and algorithms
 3 for the Department of Defense;

4 (iv) other model versions and configu-
 5 rations deployed in production, along with
 6 their hyperparameters and deployment
 7 context; and

8 (v) for each models described in
 9 clauses (i) through (iv)—

10 (I) the model name;

11 (II) the model identifiers;

12 (III) the model version or release
 13 identifier;

14 (IV) the model supplier;

15 (V) the model origin;

16 (VI) the model lineage;

17 (VII) the model license;

18 (VIII) the integrity reference;

19 (IX) a description of any self-
 20 hosted or custom models across con-
 21 tainers or virtual machines;

22 (X) any model source registries
 23 and versions; and

24 (XI) a description of artificial in-
 25 telligence agents and their functional

1 boundaries (abilities to read, write,
2 and execute).

3 (B) A description of the dependencies of
4 the artificial intelligence, including—

5 (i) the machine-learning frameworks
6 used to build and run the artificial intel-
7 ligence;

8 (ii) the developer-level artificial intel-
9 ligence technologies and software develop-
10 ment kits, including integrated develop-
11 ment environment extensions;

12 (iii) any third-party packages, includ-
13 ing supporting libraries and open-source
14 components that models of the artificial in-
15 telligence depend on;

16 (iv) the runtime dependencies nec-
17 essary for training, serving, or orches-
18 trating artificial intelligence models in pro-
19 duction; and

20 (v) any direct and nested transitive
21 relationships.

22 (C) The security and governance of the ar-
23 tificial intelligence, including—

24 (i) identity verification and access, in-
25 cluding service accounts, roles, permis-

sions, and credentials the artificial intelligence system uses;

(ii) access paths, including external application programming interfaces;

(iii) security controls, such as policies, classifiers, and validation mechanisms that apply to the artificial intelligence components;

(iv) guardrail safety configurations and filters; and

(v) model context protocol server tool configurations.

(D) Any access history and permissions granted by the artificial intelligence, including—

(i) a description of the ownership of and access to the artificial intelligence system by the Department of Defense;

(ii) the change history, including audit trails that show who modified components, when, and why; and

(iii) a description of the approval workflows, including processes that govern how artificial intelligence components move

1 through development, testing, and produc-
 2 tion.

3 (E) The performance metrics and model
 4 updates, including—

5 (i) use cases, prioritizing high-impact
 6 use cases; and

7 (ii) performance metrics, such as ac-
 8 curacy and latency.

9 (3) DATA SECTION OF ARTIFICIAL INTEL-
 10 LIGENCE BILL OF MATERIALS.—The data section of
 11 the artificial intelligence functional bill of materials
 12 required under subsection (a) shall include the fol-
 13 lowing minimum elements:

14 (A) The training data, including datasets
 15 used to train or fine-tune models of the artifi-
 16 cial intelligence, including their origin, licens-
 17 ing, and any applied preprocessing.

18 (B) The inference-time data, such as data
 19 sources any model of the artificial intelligence
 20 accessed during production, including real-time
 21 APIs, feature stores, or data warehouses.

22 (C) Data storage, including the underlying
 23 storage systems, such as cloud storage, data-
 24 bases, or vector databases, that hold artificial
 25 intelligence-related data.

(D) Metadata on components’ name, precise version, file paths, open-source licenses, package managers, and unique identifiers such as purl or cryptographic hashes.

(E) For each dataset described in subparagraphs (A) through (D)—

(i) the dataset name;

(ii) the dataset version or date of creation or last update, whichever is more recent;

(iii) the dataset location;

(iv) the integrity reference;

(v) the sensitivity of the data;

(vi) the license to use such data;

(vii) the data supplier;

(viii) the creator of the data contained in the dataset;

(ix) the data origin;

(x) the data lineage;

(xi) the country of origin; and

(xii) the data processing history.

(4) **HARDWARE SECTION OF ARTIFICIAL INTELLIGENCE FUNCTIONAL BILL OF MATERIALS.**—The hardware section of the artificial intelligence functional bill of materials required under subsection (a)

1 shall include relevant information of the physical in-
2 frastructure that the artificial intelligence runs on,
3 including the following minimum elements:

4 (A) Compute resources, including graphics
5 processing units, tensor processing units, and
6 other acceleration hardware artificial intel-
7 ligence workloads use.

8 (B) Any storage and networking that sup-
9 ports the artificial intelligence, including the
10 cloud infrastructure supporting artificial intel-
11 ligence operations and other network paths be-
12 tween components.

13 (C) Cloud environments, including ac-
14 counts, regions, and deployment boundaries on
15 which artificial intelligence workloads run.

16 (c) APPLICABILITY OF SOFTWARE BILL OF MATE-
17 RIALS REQUIREMENTS TO ARTIFICIAL INTELLIGENCE.—

18 (1) IN GENERAL.—Not later than 180 days
19 after the date of the enactment of this Act, the Sec-
20 retary of Defense, in coordination with the Under
21 Secretary of Defense for Research and Engineering,
22 the Under Secretary of Defense for Acquisition and
23 Sustainment, the Chief Digital and Artificial Intel-
24 ligence Officer, and the Chief Information Officer
25 shall develop regulations, guidance, and policies to

1 ensure that current policies, regulations, and guid-
2 ance relating to the use, submission, or maintenance
3 of a software bill of materials shall apply to the soft-
4 ware that underpins artificial intelligence systems
5 used, developed, or procured by the Department of
6 Defense.

7 (2) REPORT.—Not later than one year after the
8 date of the enactment of this Act, the Secretary of
9 Defense shall submit to the Committee on Armed
10 Services of the Senate and the Committee on Armed
11 Services of the House of Representatives a report
12 on—

13 (A) the status of the implementation of the
14 regulations, guidance, and policies developed
15 under paragraph (1), including any challenges,
16 recommendations, and legislative or regulatory
17 action needed to enhance the effectiveness of
18 such implementation;

19 (B) the feasibility and necessity of updat-
20 ing Department of Defense Instruction
21 5000.87, Operation of the Software Acquisition
22 Pathway (October 2, 2020) and the software
23 acquisition pathway established under section
24 3603 of title 10, United States Code, with re-
25 quirements for—

1 (i) an artificial intelligence software
2 bill of materials; and

3 (ii) a more detailed software bill of
4 materials in the procurement of software,
5 hardware, artificial intelligence tech-
6 nologies, and cryptographic technologies;
7 and

8 (C) the estimated costs of implementing
9 the requirements described in subparagraph
10 (B).

11 (d) CYBERSECURITY CONSIDERATIONS FOR BILL OF
12 MATERIALS.—

13 (1) IN GENERAL.—Not later than 180 days
14 after the date of the enactment of this Act, the Di-
15 rector of the Defense Systems Agency and Chief In-
16 formation Officer shall issue guidance on to pro-
17 curing agencies on appropriate storage of any bill of
18 material submitted under subsection (a) to align
19 with the cybersecurity requirements of the Depart-
20 ment of Defense.

21 (2) CONTENTS.—The guidance issued under
22 paragraph (1) shall include—

23 (A) strict access controls;

24 (B) digital signing and hashing;

25 (C) secure sharing mechanisms; and

1 (D) centralized repositories to prevent tam-
2 pering and unauthorized access.

3 (e) DEFINITIONS.—In this section:

4 (1) ARTIFICIAL INTELLIGENCE.—The terms
5 “artificial intelligence” have the meanings given
6 such terms, respectively, in section 5001 of the Na-
7 tional Artificial Intelligence Initiative Act of 2020
8 (15 U.S.C. 9401).

9 (2) SOFTWARE BILL OF MATERIALS.—The term
10 “software bill of materials” means the records kept
11 in the normal course of business that identify each
12 component, library, and dependency comprising a
13 software application.

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