SAE J3327: EV BATTERY & CRITICAL MINERAL TRACEABILITY

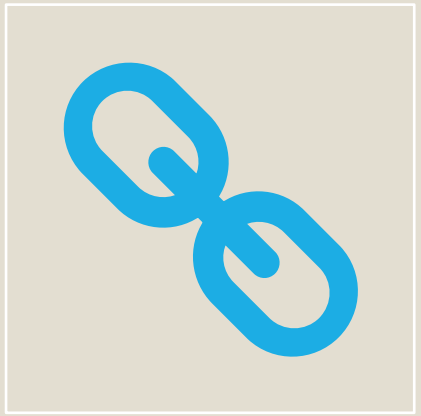
ANSI Critical Minerals Webinar

09 June 2026

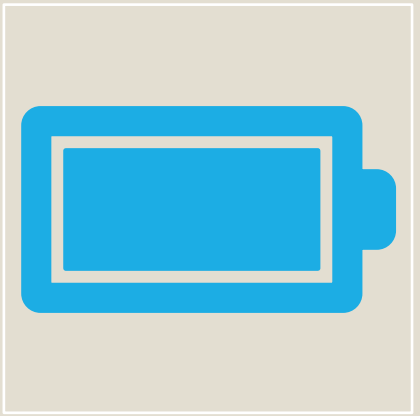
Li-Bridge

Bridging the Lithium Battery Supply Chain Gap

Background



"Traceability systems can enable the collection of data on product origin, geographic path, the sequence of entities that held ownership or control over the product and its physical evolution." --IEA (2025), The Role of Traceability in Critical Mineral Supply Chains



How can a traceability system for EV batteries advance the energy storage industry?

Organizations combined to address that question

Li-Bridge is a public-private alliance committed to accelerating the development of a robust and secure domestic supply chain for lithium-based batteries. Argonne National Laboratory leads coordination of Li-Bridge by serving as the facilitator between private industry and the Federal Consortium for Advanced Batteries (FCAB).

SAE International is the oldest and largest standard-setting organization in aerospace, automotive and commercial vehicle industries.

Origins and development of a traceability standard

In August, 2024, ANL, FCAB and LiBridge convened ~50 representatives of companies from up and down the supply chain at ANL.

The goal was to understand industry's position on traceability given U.S. tax credits and the impending European Union (EU) Digital Product Passport (DPP).

Outcomes:

- Uneven capability to comply with tax credits, foreign entity and EUDPP;
- No common procedure for reporting on traceability
- Desire for a standard that could does not generate extra work or cost;
- Can be created in less than twelve months.

SAE J3327

- SAE J3327: **Surface Vehicle EV Battery Traceability Record** published Sept 8, 2025
- Timeline (8-9 months):
  - August 2024: LiBridge Meeting
  - Dec 2024: Reformation of SAE Committee
  - March 2025: Initial Draft
  - **Sept 2025: Published as a TIR**
- Good involvement across participants:
  - GM, Ford, Nissan, Honda, Honeywell, CATL, NIST, SimbaChain, DENSO, Omron, Daimler, EnerSys

Consistent, shared format and vocabulary for identifying and recording:

- **Battery information**
- **Critical minerals contained within the battery**
- **Battery components**
- **Chain of custody information, i.e. ownership of materials, components and products along the value chain**

Leverages existing standardizations into one common global practice

Save time and cost by having one process for suppliers to follow; support recycling and re-use; ease compliance with EU DPP; ease data collection for U.S. tax incentives and NDAA compliance.

Number	Data	Unit	Static (S)/ Dynamic (D)	Mandatory (M)/ Recommended (R)	US/ EU/ Both (B)
6.1 Entity Identification					
6.1.1	Economic Operator (EU); Qualified manufacturer	ID	D (EU) S (US)	M	B
6.2 Battery Information					
6.2.1	Digital Identifier	ID	S	M	B
6.2.2	Date of Service	ID	S	M	B
6.2.3	Vehicle Identifier	ID	S	M	US
6.2.4	Battery Mass	ID	S	M	B
6.3. Battery Chemistry					
6.3.1	Itemized List of Applicable Critical Minerals (ACM)	String	S	M	B[1]
6.3.2	For each ACM, its associated constituent material	String	S	M	US
6.3.3	For each ACM, mass measured in kilograms (kg)	String	S	M	US
6.3.4	For each ACM, mass measured in kilograms (kg) in each **Battery Cell**	String	S	M	US
6.3.5	The number of **battery cells** incorporated into each **battery.** Note: the battery cell number should match the number provided in the **battery**	ID	S	M	US

[1] Note: The EU Digital Product Passport requires a smaller subset of critical minerals be reported: cobalt, lead, lithium and nickel.

Standard is organized to harmonize **with EU Digital Product Passport for Batteries**:

- Entity information
- Battery information
- Battery chemistry
- Extraction information
- Manufacturing and processing information
- Component information

Standard also harmonizes with federal battery production tax credit and NDAA requirements.

All components of the record foot to a requirement.

No public disclosure; no carbon footprinting.

The case study follows ISO standards

- **Chain of custody—Mass Balance model (ISO 13662)**
- **Traceability of rare earths in the supply chain from mine to separated products (ISO 23664)**

Updates

Since the standard was published in September 2025, we have been working in two parallel tracks.

Revisions for a 2.0 Recommended Practice (second step in the SAE process)

- Incorporating changes to 45x (Battery Production Tax Credit), with particular emphasis on new rules around Prohibited Foreign Entities;
- Improvements based on pilots;
- Information needed for NDAA compliance;
- Updates to EUDPP

Verifying the information in the traceability record

- Creating a voluntary process for verification

Appendix: Guidance on Foreign Sources

Sec. 7701. Definitions

DATE OF DETERMINATION FOR SPECIFYING A PROHIBITED FOREING ENTITY, for any taxable year last day of such taxable year. [SOURCE: I.R.C. § 7701(a)(51)(A)(ii) Determination.]

FOREIGN-CONTROLLED ENTITY, an entity or individual meeting the following conditions

- an agency or instrumentality of a government of a COVERED NATION;
- a person who is a citizen or national of a COVERED NATION, who is not a citizen, national, or lawful permanent resident of the United States;
- an entity or a qualified business unit incorporated or organized under the laws of, or having its principal place of business in, a COVERED NATION;
- an entity (including subsidiary entities) controlled by an entity described by the preceding conditions.
  [SOURCE: I.R.C. § 7701(a)(51)(C)(i-vi)]

FOREIGN-INFLUENCED ENTITY, an entity or individual meeting the following conditions:

- an entity with an officer whose appointment can be authorized by a SPECIFIED FOREIGN ENTITY;
- at least twenty-five percent owned by a SPECIFIED FOREIGN ENTITY;
- at least forty percent owned SPECIFIED FOREIGN ENTITIES;
- has made a payment in the prior tax year to a SPECIFIED FOREIGN ENTITY pursuant to a contract, agreement, or other arrangement which entitles the SPECIFIED FOREIGN ENTITY to take control over a facility or energy storage technology;
- of the taxpayer (or any person related to the taxpayer), or I.R.C. § 7701(a)(51)(D)(i)(II)(bb) — with respect to any eligible component produced by the taxpayer (or any person related to the taxpayer)— I.R.C. § 7701(a)(51)(D)(i)(II)(bb)(AA) — the extraction, processing, or recycling of any applicable critical mineral, or I.R.C. § 7701(a)(51)(D)(i)(II)(bb)(BB) — the production of an eligible component which is not an applicable critical mineral.

[SOURCE: 7701(a)(51)(D)(i)(I)(aa-dd)}

SPECIFIED FOREIGN ENTITY, a foreign entity meeting the following conditions:

- an entity identified as a Chinese military company operating in the United States I.R.C. [SOURCE: § 7701(a)(51)(B)(ii)

Revisions

- We are building a glossary on foreign entities so that when guidance is final, users will have the basic vocabulary needed for implementation;
- We are aligning closely with the forthcoming requirements of the National Defense Authorization Act.

Verification

- Building a working group with NIST and others
- Draws on several models:
  - German Battery Pass
  - EU recommendations/CEN-CENELAC
  - Data integrity model recommended by NIST
  - Industry feedback

Level	Description	Risk Assessment	Documentation
1	**No verification**	Highest	None
2	**Digital verification**	High	Yes; tests for completeness
3a	**Manual first-party** Economic Operator/ Qualified Manufacturer certifies and is responsible for accuracy of information in the traceability record, including for suppliers.	High to moderate high	Documentation supporting the claim of verification and vouching for accuracy of suppliers. Subject to audit. CE/CERT Mark eligible if approved.
3b	**Manual second-party** Customers and suppliers certify and are responsible for accuracy of information in the traceability record.	High to moderate high	Documentation supporting the claim of verification and vouching for accuracy of suppliers. Subject to audit. CE/CERT Mark eligible if approved.
4	**Third-party verification** Neutral third-party with no company interests certifies and is responsible for the accuracy of information in the traceability record.	Moderate to moderate-high or moderate low, depending on comprehensiveness.	Documentation supporting the claim of verification and vouching for accuracy of suppliers. Subject to audit. Auditor is responsible for reasonable assurance. CE/CERT Mark eligible if approved.
5	**Defense and National Security Verification.** Third party certifies it meets government/agency requirements for verification.	Moderate low to low, depending on comprehensiveness	Documentation for complete supply chain plus third-party audit or certification. CE/CERT Mark eligible if approved.

Next steps

- Ongoing pilots and industry feedback;
- Q4, 2026. Finalize next version with final 45x guidance and other updates;
- Q1, 2027. Publish Recommended Practice.