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## EU Battery Passport: A Revolution For Mining Industry?

The European Union is set to revolutionize the battery industry with the introduction of the Digital Battery Passport (DPP), a key element of its new regulatory framework aimed at promoting sustainability, circularity, and transparency. By bringing significant impacts and challenges on mining and energy metals companies, the regulation promises to reshape the mining industry landscape significantly.

### Summary of the EU Battery Passport Regulation

**The EU Digital Battery Passport (DPP) regulation aims to address the information gaps in battery supply chains and support circular business models by introducing mandatory data collection and sharing practices.** It will be implemented in phases starting from July 2024, with key provisions becoming mandatory by 2027.

#### Implementation Timeline:

- **2023:** Regulation enters into force.
- **2025-2031:** Progressive introduction of specific requirements, including **carbon footprint declarations, recycled content targets, due diligence policies, and the establishment of QR codes** for battery passport.
- **2027:** **Full implementation** of battery passports, requiring detailed information about battery models and individual batteries, including carbon footprint, recycled content, and supply chain transparency.

#### Industry Coverage

The regulation applies to all types of batteries placed on the European market, including **Electric Vehicle Batteries (EVBs), Waste Portable Batteries, Industrial Batteries, Batteries for Light Means of Transport (LMT), Starting, Lighting, and Ignition (SLI) Batteries.**

While the EU digital battery passport is designed to enhance the sustainability and safety of batteries, promote circularity through improved end-of-life (EoL) recycling, and increase transparency across the entire battery supply chain, it also poses significant challenges and impacts for mining and energy metals companies.

## Impacts It May Bring For Mining And Energy Metals Companies

### **Heavy Burden From Supply Chain Complexity**

Ensuring compliance with the battery passport requirements necessitates thorough monitoring and reporting across the entire supply chain. **This is particularly challenging given the complexity and global nature of mining supply chains. Companies will need to ensure that all their suppliers, often located in different countries with varying regulations and standards, adhere to the EU's strict guidelines.** This could lead to increased administrative burden and require strong coordination across the supply chain.

### **Substantial Investment Need**

**The digital battery passport will require detailed documentation of the entire lifecycle of a battery, from raw material extraction to end-of-life recycling.** This includes data on material provenance, carbon footprint, and compliance with environmental and social standards. Company will need advanced data collection technologies, develop robust reporting systems, and possibly redesign their operations to meet new sustainability standards. These costs could be significant, especially for smaller mining companies that may not have the same financial resources as larger corporations.

### **Smaller Players' Struggling – Reshape the Industry Landscape**

The battery passport requirements could alter competitive dynamics within the mining industry. Companies that swiftly adapt to the new regulations may gain a competitive edge in the European market. Conversely, those that lag may find themselves excluded from this lucrative market, **which could drive consolidation within the industry, as smaller players may struggle to meet the compliance costs and could be acquired by larger companies with dry powder.**

## What Need To Be Done To Tackle Those Challenges?

To prepare for these changes, especially for juniors, navigating the substantial investments and competitive pressures posed by the regulation can be particularly daunting. However, proactive strategies and careful planning could help. Collaborating and partnering with larger entities is one effective strategy. Forming alliances with larger companies or industry consortia can allow junior miners to leverage the technology, infrastructure, and expertise of their larger counterparts. Additionally, joint ventures with more established companies can provide access to advanced data collection technologies and robust reporting systems.

The *European Regional Development Fund (ERDF)* provides financial support for projects that promote economic development and environmental sustainability within EU regions. The *Horizon Europe program* offers funding for research and innovation projects focusing on sustainability, climate change, and digital transformation. Additionally, industry initiatives such as the *Global Battery Alliance (GBA)* work to ensure a sustainable battery

value chain by offering resources and support for companies engaged in battery production and recycling. *EIT Raw Materials* is another valuable resource, providing funding, networking opportunities, and innovation projects to support sustainable raw materials supply. By tapping into these programs, juniors can better navigate the challenges posed by the EU Digital Battery Passport regulation and enhance their overall sustainability efforts.

Implementing advanced data collection systems to track and report on various aspects of the supply chain, including carbon footprint, environmental impacts, sourcing details, and compliance records, is essential. **Utilizing blockchain technology or other traceability solutions** can ensure transparency and accuracy in the reporting of material provenance and supply chain activities.

In summary, while the EU digital battery passport presents several challenges for mining and energy metals companies related to potential cost increase and supply chain complexity, complying with the new regulations secures entry pass to large European market and brings technological innovation and investments within the mining sector. Companies that proactively address these challenges by investing in technology, infrastructure, and supply chain management can position themselves as leaders in a more sustainable and transparent mining industry.

## EU Digital Passport Detailed Implementation Timeline

Year	Milestone
<b>2023</b>	The new EU Batteries Regulation enters into force, introducing mandatory requirements for battery design and end of life handling.
<b>2024</b>	Battery Management Systems (BMS) must include parameters for determining the State of Health (SOH) and expected lifetime for stationary battery energy storage systems, LMT batteries, and EV batteries. <b>Adoption and communication of due diligence policy on raw materials and social and environmental risks by economic operators.</b>
<b>2025</b>	Economic operators placing batteries on the market need to fulfil due diligence obligations and set up battery due diligence policies. Producers of EV batteries must take back waste EV batteries free of charge from end users. Producers must provide takeback and collection systems and deliver collected waste EV batteries to treatment facilities. Recyclers must achieve minimum recycling efficiency targets: 75% for lead acid batteries, 65% for lithium-based batteries, 80% for nickel cadmium batteries, and 50% for other waste batteries.
<b>2026</b>	Batteries must feature labels with information on the manufacturer, battery capacity, hazardous substances, and critical raw materials contained in the battery. QR codes must be established for all batteries to provide access to the labelling information and additional information (e.g., declaration of conformity, due diligence report). <b>Carbon footprint performance class requirements come into effect.</b>
<b>2027</b>	Battery passports must be established for LMT batteries, industrial batteries with a capacity greater than 2KWh, and EV batteries. The battery passport must contain information on the battery model and the individual battery, accessible through QR codes. QR codes must be compliant with specified standards and provide access to the battery passport. Minimum recycling efficiency targets for recyclers: 50% for lithium, rising to 80% by 2031. Battery passport data must be interoperable with other EU DPPs (Digital Product Passports).
<b>2028</b>	Maximum life cycle carbon footprint threshold for batteries (levels to be determined). Collection target for LMT batteries increases to 51%.
<b>2030</b>	Collection target for waste portable batteries increases to 73%. Minimum recycled content targets for different materials in batteries come into effect: 6% for lithium and nickel, 16% for cobalt, and 85% for lead.
<b>2031</b>	Collection target for LMT batteries increases to 61%. Increased material recovery targets for lithium recycling rise to 80%. Minimum material recovery targets for recyclers: 95% for cobalt, copper, lead, and nickel, 80% for lithium.
<b>2036</b>	Increased minimum recycled content targets for materials in batteries: 12% for lithium, 15% for nickel, and 26% for cobalt, maintaining 85% for lead.