

Ford Motor Company, Huayou Cobalt, IBM, LG Chem and RCS Global Launch Blockchain Pilot to Address Concerns in Strategic Mineral Supply Chains

Goal is to create an open, industrywide network to trace and validate minerals and other materials for the automotive and consumer electronics industry

Initial work to focus on responsible sourcing of industrially-mined cobalt

ARMONK, N.Y., Jan. 16, 2019 /PRNewswire/ -- Committed to supporting human rights and environmental protection while helping infuse more transparency into global mineral supply chains, Ford Motor Company, Huayou Cobalt, IBM (NYSE: [IBM](#)), LG Chem and RCS Global announced plans to use blockchain technology to trace and validate ethically sourced minerals.

The group, which includes participants at each major stage of the supply chain from mine to end-user, will begin with a pilot focused on cobalt and explore the creation of an open, industrywide blockchain platform that could ultimately be used to trace and validate a range of minerals used in consumer products.

Cobalt is in high demand for its use in lithium-ion batteries, which power a wide range of products such as laptops, mobile devices and electric vehicles. According to a report from Morgan Stanley, by 2026, demand is expected to multiply eightfold, especially for its use in electric vehicles and consumer devices*. The typical electric car battery requires up to 20 pounds of cobalt and a standard laptop requires around one ounce of the mineral.

The blockchain pilot is already underway and seeks to demonstrate how materials in the supply chain are responsibly produced, traded and processed. For this pilot based on a simulated sourcing scenario, Cobalt produced at Huayou's industrial mine site in the Democratic Republic of Congo (DRC) will be traced through the supply chain as it travels from mine and smelter to LG Chem's cathode plant and battery plant in South Korea, and finally into a Ford plant in the United States. An immutable audit trail will be created on the blockchain, which will include corresponding data to provide evidence of the cobalt production from mine to end manufacturer.

Participants in the network will be validated against responsible sourcing standards developed by the Organization for Economic Cooperation and Development (OECD).

Traditionally, miners, smelters and consumer brands rely on third-party audits to establish compliance with generally accepted industry standards. Coupled with these assessments, blockchain technology offers a network of validated participants and immutable data that can be seen by all permissioned network participants in real time. Blockchain can also be used to help network participants address their compliance requirements.

While the initial focus is on large-scale miners (LSMs), an important objective of the group is to help increase transparency in artisanal and small-scale mining (ASMs) and enable these operators to sell their raw materials in the global market, while they meet their internationally ratified responsibility requirements. The network can help enable ASM operators to partner with due diligence data providers and, ultimately, join a blockchain-based network of validated participants. The pilot will also explore the use of incentives or financial benefits for ASMs and their local communities impacted by mining.

Built on the IBM Blockchain Platform and powered by the Linux Foundation's Hyperledger Fabric, the platform is designed to be adopted across industry. The solution is built to allow interested parties of all sizes and roles in

the supply chain easy access, including original equipment manufacturers (OEMs) across the automotive, electronics, aerospace and defense industries and their supply chain partners such as mining companies and battery manufacturers. Supply chain networks will be encouraged to join this open, industrywide network to trace and validate minerals upon successful completion of the pilot.

Work is expected to be extended beyond cobalt into other battery metals and raw materials, including minerals such as tantalum, tin, tungsten and gold, which are sometimes called conflict minerals, as well as rare earths. Focus industries for the solution include automotive, aerospace and defense, and consumer electronics. There are plans for a governance board representing members across these industries, to help further ensure the platform's growth, functionality and commitment to democratic principles.

The pilot is expected to be completed mid-year 2019.

**Morgan Stanley Research. One billion BEVs by 2050?" (May 5, 2017).*

QUOTE SHEET

"We remain committed to transparency across our global supply chain," said Lisa Drake, vice president, global purchasing and powertrain operations, Ford Motor Company. "By collaborating with other leading industries in this network, our intent is to use state-of-the-art technology to ensure materials produced for our vehicles will help meet our commitment to protecting human rights and the environment."

"As a leading global battery material provider, we are proud to have an OECD Due Diligence Program and active community support initiatives in place linked to our operations in the DRC. This is central to our proactive approach to delivering ethical cobalt. We also want to have strong, reliable information channels to prove and demonstrate this action to our customers. This blockchain pilot is an interesting and potentially important next step in these efforts. We believe in transparency and a collaborative approach to improving production conditions in the DRC cobalt sector, leveraging the project to this end has huge potential," said Chen Hongliang, CEO of Huayou Cobalt.

"With the growing demand for cobalt, this group has come together with clear objectives to illustrate how blockchain can be used for greater assurance around social responsibility in the mining supply chain," said Manish Chawla, GM, Global Industrial Products Industry, IBM. "The initial work by these organizations will be used as a precedent for the rest of the industry to be further extended to help ensure transparency around the minerals going into our consumer goods."

"As a leading global battery supplier, LG Chem will be participating in this pilot to support our sustainable growth systems and corporate social responsibility efforts to enhance not only our product quality and performance, but also to improve processes for the procurement of raw material," said Jong-Hyun Kim, LG Chem Energy Solution President.

"As the validator of the network, we will bring our vast experience working on responsible sourcing at all stages of the supply chain at all times. Our collective effort allows participating companies to progress from human-led risk management to technology-led impact generation in a highly efficient and cost-effective manner. Augmenting crucial human expertise and experience, this is a demonstration of technology for good, empowering vulnerable communities and protecting the environment. We are proud to be a member of the network," said Dr. Nicholas Garret, Group CEO at RCS Global.


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