Volvo Cars to implement blockchain traceability of cobalt used in electric car batteries

Volvo Cars will become the first carmaker to implement global traceability of cobalt used in its batteries by applying blockchain technology. The announcement follows the reveal last month of the company’s first fully electric car, the XC40 Recharge.

Traceability of raw materials used in the production of lithium ion batteries, such as cobalt, is one of the main sustainability challenges faced by car makers. Volvo Cars is committed to full traceability, ensuring that customers can drive electrified Volvos knowing the material for the batteries has been sourced responsibly.

Blockchain technology, which establishes a transparent and reliable shared data network, significantly boosts transparency of the raw material supply chain as the information about the material’s origin cannot be changed undetected.

Volvo Cars has now reached an agreement with its two global battery suppliers, CATL of China and LG Chem of South Korea, and leading global blockchain technology firms to implement traceability of cobalt starting this year.

Technology firms Circulor and Oracle operate the blockchain technology across CATL’s supply chain following a successful pilot earlier this summer, while the Responsible Sourcing Blockchain Network (RSBN), together with responsible sourcing specialists RCS Global and IBM, is rolling out the technology in LG Chem’s supply chain.

“We have always been committed to an ethical supply chain for our raw materials,” said Martina Buchhauser, head of procurement at Volvo Cars. “With blockchain technology we can take the next step towards ensuring full traceability of our supply chain and minimising any related risks, in close collaboration with our suppliers.”

A blockchain is a digital ledger containing a list of records linked to each other via cryptography. Within supply chains, the technology creates records of transactions which cannot be changed, while also enforcing a common set of rules for what data can be recorded. This allows participants to verify and audit transactions independently.

In this particular case, data in the blockchain include the cobalt’s origin, attributes such as weight and size, the chain of custody and information establishing that participants’ behavior is consistent with OECD supply chain guidelines*. This approach helps create trust between participants along a supply chain.

Volvo Cars last month launched the XC40 Recharge, the first of an upcoming family of fully electric cars under the Recharge banner. By 2025, it expects half of its global sales to consist of fully electric cars, with the rest hybrids.

Last month, Volvo Cars also launched an ambitious climate plan, which includes a radical reduction of carbon emissions by 40 per cent per vehicle by 2025, as well as a continued commitment to ethical business across its entire operations and supply chain.

CATL and LG Chem are renowned battery manufacturers, both with long and successful track records supplying lithium ion batteries to the global automotive industry. They fulfil Volvo Cars’ strict sourcing guidelines in terms of technology leadership, responsible supply chains, reduction of carbon emissions and competitive cost models.

The agreements between Volvo Cars, CATL and LG Chem cover the supply of batteries over the coming decade for next generation Volvo and Polestar models, including the XC40 Recharge.

Notes to editors
The Organisation for Economic Co-operation and Development (OECD) provides detailed recommendations to help companies respect human rights and avoid contributing to conflict through their mineral purchasing decisions and practices. The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas is global in scope, and applies to all mineral supply chains.

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**Volvo Car Group in 2018**

For the 2018 financial year, Volvo Car Group recorded an operating profit of 14,185 MSEK (14,061 MSEK in 2017). Revenue over the period amounted to 252,853 MSEK (208,646 MSEK). For the full year 2018, global sales reached a record 642,253 (571,577) cars, an increase of 12.4 per cent versus 2017. The results underline the comprehensive transformation of Volvo Cars’ finances and operations in recent years, positioning the company for its next growth phase.

**About Volvo Car Group**

Volvo Cars was founded in 1927. Today, it is one of the most well-known and respected premium car brands in the world with sales of 642,253 cars in 2018 in about 100 countries. Volvo Cars has been under the ownership of the Zhejiang Geely Holding of China since 2010.

In 2018, Volvo Cars employed on average approximately 43,000 (39,500) full-time employees. Volvo Cars head office, product development, marketing and administration functions are mainly located in Gothenburg, Sweden. Volvo Cars head office for China is located in Shanghai. The company’s main car production plants are located in Gothenburg (Sweden), Ghent (Belgium), South Carolina (US), Chengdu and Daqing (China), while engines are manufactured in Skövde (Sweden) and Zhangjiakou (China) and body components in Olofström (Sweden).

Under its new company purpose, Volvo Cars aims to provide customers with the Freedom to Move in a personal, sustainable and safe way. This purpose is reflected into a number of business ambitions: by the middle of next decade it aims for half of its global sales to be fully electric cars and to offer half of all cars to customers via its subscription service. By then, it also expects one-third of its cars sold to be autonomous.

**About Contemporary Amperex Technology Ltd. (CATL)**

Contemporary Amperex Technology Co., Limited ("CATL") is a global leader in the development and manufacturing of lithium-ion power and energy storage batteries, with businesses covering R&D, manufacturing and sales in battery system for new energy vehicle and energy storage system. In 2018, the company’s sales reached 21.31 GWh worldwide, which was leading in the world (according to data from SNE Research).

Headquartered in Ningde, China, CATL has more than 24,000 employees around the world and subsidiaries in Beijing, Liyang (Jiangsu Province), Shanghai and Xining (Qinghai Province), as well as in Munich (Germany), Paris (France), Yokohama (Japan), Detroit (USA) and Vancouver (Canada). . In addition, the company owns and operates battery manufacturing facilities in Fujian, Jiangsu and Qinghai provinces, and the Europe plant located in Erfurt, Germany, as well as the first overseas plant, is under construction. In June 2018, the company went public on the Shenzhen Stock Exchange with stock code 300750.

For further information, please visit: [http://www.catlbattery.com](http://www.catlbattery.com)

**About LG Chem**

LG Chem, Ltd. is Korea’s largest diversified chemical company which operates three main business units: Petrochemicals, Advanced Materials and Energy Solution. The company was founded in 1947 and now employs over 34,000 staff globally. The chemical business manufactures a wide range of products, from petrochemical goods to high-value added plastics. It also extends its chemical expertise into high-tech areas such as electronic materials and lithium ion batteries.

With over 20 years’ experience of development and production of these batteries LG Chem has established themselves as one of the world’s leading Lithium-ion manufacturers. The company is a primary supplier of lithium batteries throughout the world for the mobile phone and hybrid/electric vehicle industries & Energy Storage System (ESS).


**About RCS Global Group**

Founded in 2008, RCS Global Group is the global leader in responsible sourcing auditing and advisory. Implementing technology driven solutions, RCS Global enables industry to apply responsible business practices and demonstrate continuous improvement at every tier of the natural resources supply chain, with a specialism in high-risk raw materials and battery metals.

For further information, please visit: [www.rcsglobal.com](http://www.rcsglobal.com)

**About Responsible Sourcing Blockchain Network (RSBN)**

Built on the IBM Blockchain Platform, assured by RCS Global Group and powered by the Linux Foundation’s Hyperledger Fabric, the RSBN blockchain platform is designed for cross-industry adoption. Members include Ford,
Volkswagen Group, Volvo Cars, LG Chem, Huayou Cobalt and others. Providing traceability and verification of responsible sourcing practices from mine to market, including the end-to-end supply chains, the solution is a network accessible to companies at every tier of the supply chain, which complete an onboarding assessment verifying the members responsible sourcing practices. For more information, please visit: IBM or RCS Global: https://www.rcsglobal.com/blockchain-traceability/

About Circulor
Circulor is a technology company founded in 2017 using blockchain, artificial intelligence and other technologies to track commodities in supply chains to enable responsible sourcing of raw materials and verify recycling.

For further information, please visit: www.circulor.com

About Oracle
The Oracle Cloud offers a complete suite of integrated applications for Sales, Service, Marketing, Human Resources, Finance, Supply Chain and Manufacturing, plus Highly Automated and Secure Generation 2 Infrastructure featuring the Oracle Autonomous Database. For more information about Oracle (NYSE: ORCL), please visit us at www.oracle.com

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