



.Corporate Communications

Elise Pham
Press Spokesperson Procurement
Phone: +49 841 89 48168
E-mail: elise.pham@audi.de
www.audi-mediacyber.com

New power from old cells: Audi and Umicore develop closed loop battery recycling

- **Car manufacturer and materials technology and recycling group test a closed loop for high-voltage car batteries**
- **95 percent of valuable battery materials can be recycled**
- **The partners are developing a raw materials bank concept for these recovered raw materials**

Ingolstadt, October 26, 2018 – Milestone reached: Audi and Umicore have successfully completed phase one of their strategic research cooperation for battery recycling. The two partners are developing a closed loop for components of high-voltage batteries that can be used again and again. Particularly valuable materials are set to become available in a raw materials bank.

Already before the start of the cooperation with Umicore in June 2018, Audi had analyzed the batteries in the A3 e-tron plug-in hybrid car and defined ways of recycling. Together with the material technology experts, the car manufacturer then determined the possible recycling rates for battery components such as cobalt, nickel and copper. The result: In laboratory tests, more than 95 percent of these elements can be recovered and reused.

The partners are now developing specific recycling concepts. The focus is on the so-called closed-loop approach. In such a closed cycle, valuable elements from batteries flow into new products at the end of their lifecycle and are thus reused. The Ingolstadt-based company is now applying this approach to the high-voltage batteries in the new Audi e-tron electric car. The aim is to gain insights into the purity of the recovered materials, recycling rates and the economic feasibility of concepts such as a raw materials bank. Security of supply and shorter delivery cycles are the goals. “We want to be a pioneer and to promote recycling processes. This is also an element of our program to reduce CO₂ emissions in procurement,” says Bernd Martens, Member of the Board of Management for Procurement and IT at AUDI AG.

For Audi, battery recycling is a key element of sustainable electric mobility. From the extraction of raw materials to the CO₂-neutral e-tron plant in Brussels to the recycling of components, the premium brand is committed to environmentally compatible concepts along its entire value chain.



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Fuel consumption of the models named:

Audi A3 Sportback e-tron

Fuel consumption combined in l/100 km: 1.8 – 1.6*

Electricity consumption combined in kWh/100 km: 12.0 – 11.4*

CO₂ emissions combined in g/km: 40 – 36*

** Fuel consumption and CO₂ emissions figures given in ranges depend on the tires/wheels used.*

Further information on official fuel consumption figures and the official specific CO₂ emissions of new passenger cars can be found in the “Guide on the fuel economy, CO₂ emissions and power consumption of all new passenger car models,” which is available free of charge at all sales dealerships and from DAT Deutsche Automobil Treuhand GmbH, Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, Germany (www.dat.de).

About Audi

The Audi Group, with its brands Audi, Ducati and Lamborghini, is one of the most successful manufacturers of automobiles and motorcycles in the premium segment. It is present in more than 100 markets worldwide and produces at 16 locations in twelve countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant’Agata Bolognese, Italy) and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2017, the Audi Group delivered to customers about 1.878 million automobiles of the Audi brand, 3,815 sports cars of the Lamborghini brand and 55,900 motorcycles of the Ducati brand. In the 2017 fiscal year, AUDI AG achieved total revenue of €60.1 billion and an operating profit of €5.1 billion. At present, approximately 90,000 people work for the company all over the world, more than 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.

About Umicore

Umicore is a global materials technology and recycling group. It focuses on application areas where its expertise in materials science, chemistry and metallurgy makes a real difference. Its activities are organised in three business groups: Catalysis, Energy & Surface Technologies and Recycling. Each business group is divided into market-focused business units offering materials and solutions that are at the cutting edge of new technological developments and essential to everyday life.

Umicore strategy focuses on clean mobility materials and recycling with the overriding goal of sustainable value creation based on an ambition to develop, produce and recycle materials in a way that fulfils its mission: materials for a better life.

Umicore’s industrial and commercial operations as well as research & development activities are located across the world to best serve its global customer base. The Group generated a turnover of € 6.4 billion (€ 1.7 billion excluding metal) in the first half of 2018 and currently employs 9,800 people.