

## Johnson Matthey to improve the sustainability of Li-ion battery manufacturing with partners OnTo Technology and the UK Battery Industrialisation Centre

26 August 2021

- 
- Partnership will involve direct recycling of lithium-ion battery production scrap
  - Project support from UK Government: Office for Zero Emission Vehicles (OZEV) in partnership with Innovate UK

Johnson Matthey, a global leader in sustainable technologies, has entered into an agreement with OnTo Technology, a developer of advanced battery recycling solutions, to scale up OnTo's patented process for the direct recycling of lithium-ion battery scrap.

The partners will collaborate with the UK Battery Industrialisation Centre (UKBIC), the newly opened national battery manufacturing scale up facility in Coventry. Part funding for the feasibility stage of the project is from the UK Government's Office for Zero Emission Vehicles (OZEV) in partnership with Innovate UK.

Production of lithium ion batteries in Europe for electric vehicles is expected to increase more than ten-fold from 82 GWh/yr to 934 GWh/yr in 2030<sup>1</sup>. With production scrap rates of typically 5-10%, the recycling of critical raw materials from production waste is a significant opportunity to drive efficient and circular manufacturing technologies as we move towards a net zero future.

Using direct cathode recycling, valuable electrode coatings can be harvested from battery manufacturing scrap. OnTo's patented Cathode Healing™ process restores the coating material to be used in making new batteries. It avoids energy-intensive refining processes, significantly increasing manufacturing efficiency, lowering cost and the carbon footprint of batteries used to power electric cars.

Jane Toogood, Chief Executive of Johnson Matthey's Efficient Natural Resources Sector said:

"We believe direct cathode recycling is an important goal in delivering a truly sustainable electric car. We are delighted to be working with OnTo and UKBIC to bring this exciting technology closer to commercialisation."

Dr Steven Sloop, President of OnTo Technology, added:

"We are happy to be working with Johnson Matthey and UKBIC to deliver the potential of direct cathode recycling. I'm confident our combined capabilities will succeed in delivering a viable process that will be a compelling commercial proposition for battery manufacturers."

Matthew Dobson, UKBIC's Principal Engineer, added:

"The recycling of batteries is an important part of developing a sustainable UK value chain and aligns with UKBIC's objective of enabling a route to Net Zero. With battery manufacturing scale-up capability using production relevant equipment and processes capability at volume, we're delighted to be working with Johnson Matthey and OnTo, to help scale up of direct recycling of lithium ion battery waste."

ENDS

<sup>1</sup> Data from Bloomberg NEF

**Johnson Matthey** is a global leader in sustainable technologies that enable a cleaner and healthier world. With over 200 years of sustained commitment to innovation and technological breakthroughs, we improve the performance, function and safety of our customers' products. Our science has a global impact in areas such as low emission transport, pharmaceuticals, chemical processing and making the most efficient use of the planet's natural resources. Today about 15,000 Johnson Matthey professionals collaborate with our network of customers and partners to make a real difference to the world around us. For more information, visit [www.matthey.com](http://www.matthey.com)

**OnTo Technology LLC** offers advanced battery recycling solutions to reduce cost and improve safety for the lithium-ion battery industry. OnTo's patent portfolio includes whole battery deactivation, sorting, harvesting of electrode materials, cathode-healing™ and clean precursors for new cathodes. OnTo's scientific and engineering team has world leading experience in the breadth and depth of battery chemistries, applications, failure mechanisms, end-of-life issues, as well as chemistry development and battery prototyping. OnTo is ready to integrate advanced battery recycling with industrial partners working to improve safety and sustainability (both environmental and economic) of advanced batteries.

For more information, visit [www.onto-technology.com](http://www.onto-technology.com)

**The UK Battery Industrialisation Centre (UKBIC)**, which was opened by the Rt Hon Boris Johnson MP, the Prime Minister in July 2021, is a pioneering battery manufacturing development facility providing battery manufacturing scale-up and facilitate upskilling in the battery sector. Based in Coventry, the publicly-funded facility welcomes manufacturers, entrepreneurs, researchers and educators, and can be accessed by any organisation with existing or new battery technology – if that technology will bring green jobs and prosperity to the UK.

For more information, visit [www.ukbic.co.uk](http://www.ukbic.co.uk)

**For further information, please contact:**

Johnson Matthey: Rebecca Williams [jmp@matthey.com](mailto:jmpr@matthey.com) 0207 269 8001

OnTo: Steven Sloop [info@onto-technology.com](mailto:info@onto-technology.com)

UKBIC: Richard Robinson [richard.robinson@ukbic.co.uk](mailto:richard.robinson@ukbic.co.uk)