

# Johnson Matthey and 3M Complete NMC Patent License Agreement

Johnson Matthey and 3M have entered into a patent license agreement that aims at further expanding the use of Nickel-Manganese-Cobalt (NMC) cathode materials in lithium-ion batteries for automotive applications. Under the agreement, 3M grants Johnson Matthey a license to US6964828, US7078128, US8241791, US8685565 and all global equivalents thereof, and to US6660432 and all global equivalents thereof.

The cathode compositions composed of nickel, manganese and cobalt offer an outstanding balance of power, energy, thermal stability and cost. NMC cathode materials can be tailored through changes in composition and morphology to give optimized performance in a diverse range of automotive applications from micro-hybrid systems to fully electric vehicles. Through focused product development and customization, Johnson Matthey will deliver NMC technologies to the market to help support and enable powertrain electrification.

“We are pleased to have reached this agreement with 3M, which represents a further step in our strategy to provide a broad portfolio of cathode materials to the automotive and other high performance markets,” said Neil Collins, director of Johnson Matthey’s Battery Materials business. “We look forward to applying our skills in nickel chemistry and in the scale-up and manufacturing of battery materials as we work with our customers to develop customized commercial products.”

“The rapid growth of the electric vehicle market is driving the need for NMC-based cathode materials globally and especially in China,” said Christian Milker, global business manager of 3M’s Electronics Materials Solutions Division. “Johnson Matthey is well-positioned to supply lithium ion battery customers in this dynamic environment. We are pleased to conclude this agreement with Johnson Matthey, which will help to accelerate the adoption of NMC technology worldwide.”

## About 3M

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