



20 November 2018

***NEXT-BATTERY* RAMPS UP DEVELOPMENT**

- *Next-Battery's* prototype development bolstered by key progress milestones, with solid state electrolyte technology to partner anode and cathode innovation using *Next-Battery's* thin film technology, creating a unique lattice structure to deliver significant increases in battery capacity without major changes to existing battery production processes.
- HIPO Chairman, Maurice Feilich recently attended the Zaporizhzhya International Investment Forum Ukraine, where NextMetals, *Next-Battery's* parent company, presented at the request of Governor Konstantine Bryl. NextMetals was one of 8 speakers presenting at the panel with the Governor.
- Presentation included *Next-Battery's* development of Novel Electrodes for Advanced Lithium-ion Batteries with investment from HIPO Resources. There was a televised signing of an MOU between NextMetals and the Regions' Governor. The MOU confirms government support for the development of any of NextMetals and *Next-Battery* products in Zaporizhzhya.
- Discussions with Ukrainian governmental officials covered the viability of converting existing Ukrainian car manufacturing plants to be suitable for manufacturing electric vehicles with the potential that *Next-Battery's* lithium-ion battery technology will form the core of the battery power supply.
- *Next-Battery* continues with cathode prototype development with multiple demonstrations of elements of the cathode manufacturing process being completed, including the deposition of several nano-meters of certain metal oxides on a substrate for testing.
- Strategic discussions underway with both EV car and battery manufacturers in Europe and China.
- Key recent development has been the formation of a new *Next-Battery* scientific team specifically formed to develop a unique thin film solid electrolyte. Solid-state batteries replace the liquid electrolyte used in today's lithium-ion batteries with a solid material that could make batteries less flammable while increasing their capacity and charging speed. Whilst the *Next-Battery* anode / cathode technology works effectively with either liquid or gel electrolytes, any significant advancements on solid state technology could see *Next-Battery* effectively "jump the queue" in terms of rapid commercialisation.
- The new Electrolyte team is focussed on 3 different types of electrolyte for the Next Li-ion battery: 1. A liquid/gel electrolyte; 2. Solid ceramic electrolyte; 3. Polymer/polymer nano-structured composite. The key objective is to select an electrolyte with very high "ionic conductivity" which has the optimum compatibility with the new Next electrodes.
- Major global trend in battery technology is to develop a Solid State Li-ion Battery, which requires a solid electrolyte. Biggest problem is that there is normally low ionic conductivity. The members of the Next electrolyte team are experienced in solid electrolytes and are in the process of producing a novel solid electrolyte with significantly higher conductivity.
- All work is conducted to select the most feasible mass production system to produce a Li-ion battery.



HIPO Resources Limited

HIPO Resources Limited (ASX: HIP) (HIPO or the Company) is pleased to report rapid progress is being made by *Next-Battery*, the lithium-ion battery technology company which HIPO has a 35% earn in interest.

As communicated (ASX release: 29 August 2018), *Next-Battery's* technology involves unique lithium-ion chemistries with novel nano-structuring technology to effectively 'upgrade' a battery electrode's functional properties. The proprietary process significantly increases the surface area of the metal oxides in the cathode which allows dimension reduction and doping to increase functionalisation and morphology control. This enables cathodes that are ultra-porous, and lithium infused within a nanostructured surface to enable faster lithium-ion transport and electron movement in a more energy dense structure.

Laboratory studies on the cathode by *Next-Battery's* scientists show the technology can more than double the specific energy of the best commercial lithium-ion batteries today, such as the new Tesla/Panasonic 2170 cell used in the Tesla Model 3 battery pack. Recharge time should also improve based upon tests to date.

Next-Battery is well advanced with demonstrating a state-of-the-art prototype battery that will aim to show a minimum 50% increase in specific energy from the best commercial lithium-ion batteries today.

Benton Wilcoxon, CEO of *Next-Battery*, commented: *"Our Next-Battery technology will shortly demonstrate a major improvement in the specific energy of a lithium-ion battery due to the impressive scientists that have spent years pursuing a breakthrough in each of the key components of a battery. Now we are putting it all together in a package to be clearly demonstrated."*

HIPO Executive Chairman Maurice Feilich added: *"I recently had the opportunity to visit the Next-Battery facilities in Ukraine and was suitably impressed and very overwhelmed. It is hard to convey to shareholders the skill set of the scientific team and laboratory facilities assembled by Next-Battery, and the rapid development of the first prototype. Just as important was listening to their analysis of battery technology development across Europe, Asia and the US, and why Next-Battery could well be at the forefront of rapid development given the breadth of expertise of the scientific team and their ability to deliver ground-breaking new technology."*

"Next-Battery has proven to be a worthwhile investment and we are close to reporting on the next milestones including developments with European and Chinese EV and battery manufacturers."

Images 1-4 that follow provide further details for shareholders.

-ENDS-

Further information:

Maurice Feilich, Executive Chairman: +61 (0) 411 545 262

Released through: Ben Jarvis, Six Degrees Investor Relations: +61 (0) 413 150 448

info@hiporesources.com.au , (*Next-Battery*) info@next-battery.com / www.next-battery.com



HIPO Resources Limited



Image 1: The Next Battery Team at the Zaporizhzhya International Investment Forum



HIPO Resources Limited



Image 2: Hipo Chairman Maurice Feilich looking at a demonstration of thin film luminescent displays which utilise similar production technologies proposed to be used for the Next Battery electrode.



Image 3: Thin film of metal oxides being deposited on substrate for electrode testing



Image 4: The Next Battery Team looking at the thin film deposition equipment recently assembled at the laboratory.