

Storedot's new biological smartphone battery fully charges in under 30 seconds – A disruptive threat to lithium miners?

Is the announcement by Israel based tech junior **Storedot** of a new organic battery for smartphones that charges from dead to full in 26 seconds a serious disruptive threat to the anticipated growth of the lithium industry?

Are organic batteries going to be disruptive to the lithium industry?

For the last few years there have been expectations of growing lithium demand from a still voracious battery hungry mobile phone industry, as well as the anticipated start-up of mass produced electric vehicles by Tesla Motors.

The announcement therefore, by an Israel based junior development company, Storedot, of a new type of phone battery, that can charge a smartphone battery from dead to full in 26 seconds, and is organic rather than lithium-ion, could prove very disruptive to the lithium mining industry at a time when it is gearing up for the anticipated incremental demand moving forwards.

Storedot CEO Doron Myersdorf confirmed that *“phone-makers from the US, South Korea, China and Japan have already begun talks to either license, or buy exclusive rights to the tech, and that he has 17 meetings at this year's Consumer Electronics Show in Las Vegas, with all the major players”*.

Storedot have raised \$48 million so far, with \$10 million coming from Roman Abramovich's private investment fund.

An organic battery!

The new organic battery is constructed from biological structures using crystals 2 nanometres in diameter, made up of peptides which contain unique chemical and physical properties.

Israel based Storedot demonstrated their new product by charging a Samsung S4 phone from dead to fully charged in 26 seconds, at the Microsoft sponsored Symposium in Tel Aviv, Israel recently.

CEO Myersdorf confirmed that *"Storedot aims to recharge a typical smartphone battery in less than a minute by 2017! It involves using a completely new type of battery, which contains specially synthesised organic molecules"*.

"We have reactions in the battery that are non-traditional reactions that allow us to charge very fast, moving ions from an anode to a cathode, at a speed that was not possible before we had these materials," explained Myersdorf.

"It should be noted that it's not something that can be retrofitted to existing devices, since most phones would be fried by the 40 amps of electricity the current version of the charger supplies" Mr Myersdorf acknowledges, and *"that there is still more work to be done before his tech is ready for consumers"*.

The batteries will not be commercially available until around late 2016, or the start of 2017, and the prototype displayed is not suitable for commerciality due to its size. Storedot continue to work on slimming down the size to be compatible with today's sleek devices.

They are currently only one third of the energy density per

kilogram, and are working hard to reach parity before the end of 2016.

They also have another battery that charges in three minutes, but is currently 0.2 of one inch deeper than current phone batteries, which is not a lot, and I would think the advantages of the quick charge would easily negate any small additional thickness of the battery from the consumer's perspective.

The batteries are expected to double the cost of a standard smartphone battery produced today, to around £18 per unit, but, given the enormous benefits, this will clearly not be a problem!

Your humble scribe anticipates a burgeoning new industry of commercial phone multi-chargers in small shops, trains, buses, and other retail outlets where you will be able to insert a coin into a slot and exit one minute later with a fully charged phone!

Caveats are that they currently do not have a commercial phone, and their claims are not peer review tested.

However, both Myersdorf and his Chief Technology Officer, Prof Simon Litsyn, held senior roles at **SanDisk** and were instrumental in making that company a leader in flash memory technology, so have achieved before.

Comment

This clearly has the potential to be a very disruptive technology for the lithium miners and industry, but the results to date have yet to be reviewed by peers, and ,in an ideal world the battery and charger would be smaller, but they have already greatly reduced the size from the original, so you wouldn't bet against them doing it again!

Whilst smartphone batteries don't use a great deal of lithium, they are manufactured in the billions, so overall do have a

significant effect on the demand for lithium.

Storedot has a much bigger plan though, on the immediate horizon, which should be cause for concern for the lithium industry!

*"We are just starting work on **electric vehicles**," says Mr Myersdorf. "And we intend to show in one year a model of a car that can charge in three minutes. We are 100% sure we can deliver, because the knowhow of how you take one cell and combine thousands of them together has already been done by Tesla.*

The user-experience would be exactly like refuelling, but without fumes. It would really boost adoption of electric vehicles. It would be a game-changer."

If I were n the Lithium industry I may not be sleeping so soundly after the release of this news.