

The future of batteries is your future ! - **WHY?** - Elorn -1S

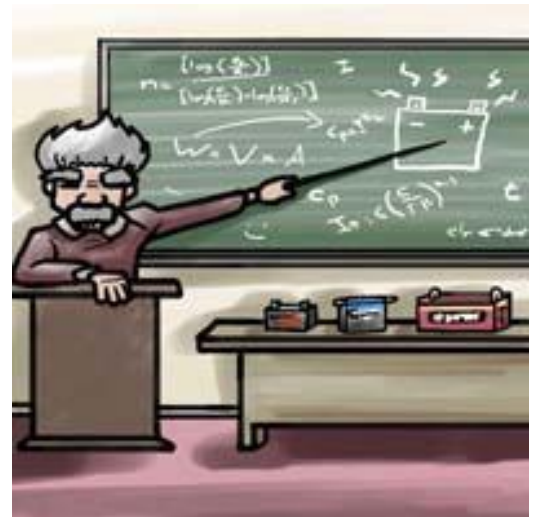


A small and portable lithium ion battery

With the increase of electronic devices in our lives, batteries are becoming an increasingly important part of the **new technology**. We can now find them in a wide array of electronic devices such as laptops, smartphones but also in cars and even maybe in your grandpa's pacemakers. New technologies have been emerging recently and studies that have been going on for a long time can help improve batteries in a lot of ways. In the future we could have **cheaper, smaller, longer lasting, faster charging** and generally more **powerful batteries**.

Every type of battery is using chemical reactions between different chemical compounds to produce energy for example; the lithium-ion battery uses the energy produced by **the movement of lithium ions** to power devices.

The battery you have in your smartphone is very likely to be the one cited above: the **lithium-ion battery**. The lithium-ion battery is popular because it can store **a lot of power in a small volume** and it can be recharged **without losing capacity** even if it hasn't been fully discharged before. Lithium-ion batteries also **discharge very slowly** when they are not in use. Some studies have shown that they could actually be upgraded to be able to store two to three times the amount of power they already can.



However, **lithium-ion batteries are limited** in term of evolution and will be replaced sooner or later by another type of batteries. Two of the new most promising types of batteries are **Magnesium-ion** and **Lithium-air** batteries. The magnesium-ion batteries would work in a similar way as lithium-ion batteries but because there is more magnesium on earth than lithium, they would be cheaper. Lithium-air batteries on the other hand, could store up to **five to ten times** as much as the ones we have today and still be lighter thanks to the use of air as one of the reactive. But a lot of progress has to be made before we find them in our electronic devices.

Lots of different batteries like liquid metal batteries (using molten metals to create energy) or flow batteries (in which dissolved materials flow through an internal cell to create energy) are also being researched and we can hope to be able to play longer with our smartphone in the coming years.