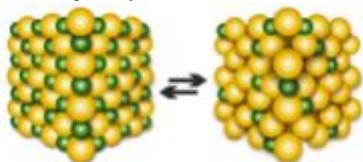




Published on *Horizon 2020* (<https://ec.europa.eu/programmes/horizon2020>)

---

Monday, 4 June, 2018



[1]

The LiRichFCC project will explore an entirely new class of materials for electrochemical energy storage termed “Li-rich FCC” comprising a very high concentration of lithium in a cubic dense packed structure (FCC).

Our prowess in harnessing and creating electricity has not been matched by our capacity to store it. Today’s batteries in the form of lithium-ion (Li-ion) are far from perfect. They may be installed in a wide range of appliances including automobiles yet they provide limited energy to power our phones and laptops, or heat and light homes unconnected to a national grid – most especially in developing countries where energy poverty is predominant.

Their performance gradually worsens over time whether they are rechargeable or not thereby exhibiting the limited lifespan we were not expecting. To make things worse, researchers expect a significant shortage of lithium in the near future because it is one of the rarest elements available in the Earth’s crust and demand for it is still on the rise.

So how can we make better, longer lasting batteries? That is the goal ahead of LiRichFCC, a project funded by [FET Open](#) [2]. Researchers in the LiRichFCC project are working to develop a new class of lithium-based materials, which was discovered by scientists from Helmholtz Institute Ulm-Electrochemical Energy Storage, one of the partners in the consortium. Instead of the conventional Li-ion batteries we use today, their batteries will have a very high concentration of lithium present in an oxyfluoride structure – a dense cubic structure, which Li ions can profit from. With its geometry, the lithium ions can enter and leave the cubic structure like the wooden blocks in the popular game Jenga. By doing so, this crystal can be re-charged more often and exhibit better energy capacity compared to its predecessors.

If you are interested to learn more, please visit [LiRichFCC website](#) [3].

**Project:**

A new class of powerful materials for electrochemical energy storage: Lithium-rich oxyfluorides with cubic dense packing

**Project Acronym:**

LiRichFCC

**Project website:**

<http://www.lirichfcc.eu/index.php> [4]

---

**Source URL:**

<https://ec.europa.eu/programmes/horizon2020/en/news/lirichfcc-creating-longer-lasting-batteries-using-jenga>

**Links**

[1] [https://ec.europa.eu/programmes/horizon2020/sites/default/files/newsroom/lirichfcc\\_33455.jpg](https://ec.europa.eu/programmes/horizon2020/sites/default/files/newsroom/lirichfcc_33455.jpg)

[2] <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-open>

[3] <http://www.lirichfcc.eu/>

[4] <http://www.lirichfcc.eu/index.php>