

Swiss start-up says new battery chemistry superior to lithium-ion

Patrick McGee in Bruchsal 3 HOURS AGO

A team of chemists and engineers at Swiss-German battery start-up Innolith have developed a new battery chemistry they claim is superior to lithium-ion.

Innolith, a Basel-based company with a 60-strong R&D team in Bruchsal, near Frankfurt, formally launched on Wednesday with plans to commercialise an inorganic battery chemistry that is non-flammable and durable by 2020.

Its key attribute is the batteries can be charged and discharged an order of magnitude more often than batteries that currently power everything from smart phones to electric vehicles. Innolith claims a lifetime of more than 50,000 cycles, versus around 1,000 for lithium-ion.

“If this was in your iPhone, it would last more than 100 years,” said Alan Greenshields, chairman and co-founder.

He was referring not to the battery life — at this stage Innolith batteries’ energy density is weaker than what is available from lithium-ion — but to the battery’s lifespan from being used every day.

Of course, there is little reason anyone would want their iPhone to last that long. For electric vehicles, however, Innolith believes its technology could solve the problem of a car battery dying after less than a decade of use.

Innolith’s initial use, however, is not in EVs or consumer products, but in grid stabilisation technology needed as more cities rely on renewable energy like wind and solar.

Renewables are better for the environment but inherently less reliable, given that sunset, a speck of clouds or a lack of wind can shut down the energy source. Storing energy in batteries is therefore fast becoming a critical component for grid operators as they move away from centralised, fossil fuel-based powerplants.

“The Achilles Heel is that most batteries are limited in cycle life,” Mr Greenshields said. “One of the key properties of our first product is that because we have gotten rid of organic materials, our battery has — depending on your reference point — between ten and a hundred times the cycle life of lithium systems.”

