

Benefits of sodium ion batteries

Benefits of Sodium-ion Battery (Na-ion Battery)

Cheaper batteries might be on the horizon.

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Buckle up, because this week, we"re talking about batteries.

Over the past couple of months, I"ve been noticing a lot of announcements about a new type of battery, one that could majorly shake things up if all the promises I"m hearing turn out to be true.

The new challenger? Sodium-ion batteries, which swap sodium for the lithium that powers most EVs and devices like cell phones and laptops today.

Sodium-ion batteries could squeeze their way into some corners of the battery market as soon as the end of this year, and they could be huge in cutting costs for EVs. I wrote a story about all the recent announcements, and you should give it a read if you"re curious about what companies are jumping in on this trend and what their plans are. But for the newsletter this week, let"s dig a little bit deeper into the chemistry and consider what the details could mean for the future of EV batteries.

One of the reasons that lithium dominates batteries today is absolutely, maddeningly simple: it's small.

I mean that in the most literal, atomic sense. Lithium is the third-lightest element, heavier than only hydrogen and helium. When it comes down to it, it's hard to beat the lightest metal in existence if you're trying to make compact, lightweight batteries.

And cutting weight and size is the goal for making everything from iPhones to EVs: a lightweight, powerful battery means your phone can be smaller and your car can drive farther. So one of the primary ways we've measured progress for batteries is energy density--how much energy a battery can pack into a given size.

Sodium-based batteries could start hitting the market this year, if companies follow through on their plans.

When you look at that chemical reality, it's almost no wonder that lithium-ion batteries have exploded in popularity since their commercial debut in the 1990s. There are obviously other factors too, like lithium-ion's ability to reach high voltages in order to deliver a lot of power, but the benefit of being lightweight and portable is hard to overstate.



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