For its part, the Biden administration seems to acknowledge the challenge of creating an American-practiced battery manufacturing sector. "When it comes to research, the U.S. is very well positioned," President Joe Biden said in his State of the Union address. Still, many experts say it's going to take more than a bit of federal support to make the U.S. competitive in this space.

"The U.S. is behind many countries in terms of battery manufacturing," says Michael Wessner, a transportation researcher at the University of California, Davis. "But there are signs that the U.S. is making strides." One of those signs is Solid Power, which was founded in 2012 in a small Colorado battery startup that had licensed a promising technology from the U.S. government.

At Solid Power, the focus is on developing solid-state batteries, which are batteries that use a solid electrolyte layer — the material that goes into the battery — rather than a liquid electrolyte, which helps ions move across the battery during use. But Solid Power's battery is charging and discharging. Experts say the design and technology to produce solid-state batteries is not particularly innovative. "The challenge is to improve the storage capabilities of lithium-ion batteries," says Wessner. "That's why the Biden administration is emphasizing the need to have a domestic supply chain — electronics, energy storage and electric vehicles become more sustainable when they're produced domestically."
There's going to be a big market for electric vehicles — we've been predicting that for a long time, there's no doubt about that.

Young companies, he says, including the one he recently founded, would benefit from industry-wide pilot manufacturing plants that could be rented by various startups. Similar, he says, to the way much of the semiconductor industry underscores manufacturing to "fabs."

"There's a tremendous incentive in the academic world in the U.S. to say, 'We're still the best at coming up with innovations that will transform battery technology.' But most companies don't make it to the so-called fab. As a result, there's a very real question of whether they have innovation, but because they don't have the infrastructure, the equipment.

Cairn and experimenting with these strategies will probably take time, though, and strategy like Solid Power could simply not be waiting to see what the future holds. That company's strategy seems to acknowledge that the U.S. still need to support domestic, full-scale battery manufacturers now.

"Our model is to build it, in the short term, becoming a material producer, not necessarily to become a cell producer and compete head-to-head with the likes of Panasonic, CATL, at some point. The CEO, we get closer and closer to mass production, we're going to be looking to partner.

Ultimately, that might be the best for U.S. battery manufacturers to succeed, both today and in the future. Where countries like China and South Korea have become adept at making stuff, especially things like batteries, which have relatively low margins, the U.S. seems to acknowledge that the U.S. isn't ready to support domestic, full-scale battery manufacturers now.

"Many A123 veterans are now the smartest in the industry because they went through that. Thats what is different today," says Campbell, the CEO. "We got closer and closer to mass production, we're going to be looking to partner."

The answer, some observers say, will likely be different than it was during 2012-15 time — in large part because of ASX's spectacular U.S. failure.

"Mary A123 remains on the more remote of the industry because they went through that. That's what is different today," says Galen Jaffe. "They made the argument that ASX failed as a company but repeated the much of the American battery industry history."