

News & Business

BY [KATIE LEAVITT](#) | WEDNESDAY, JUNE 23, 2010 10:30 AM ET

When it comes to batteries, many of us consider them a necessary component to our camera, alarm clock or toy. Often we ignore the depth of study that actually goes into battery-making and the way these energy storage units can affect all of our lives.

Esther Takeuchi has spent her career bettering biomedical devices through her battery innovations. She's had no shortage of ideas, proven by her record of being the woman who holds the most US patents. In recent years, Takeuchi has taken her ideas into the world of academia as a professor at SUNY's University at Buffalo. There, she is adding battery usage in transport and the power grid to her repertoire. Her **next project** focuses on extending the life of batteries for electric vehicles, using lessons learned from biomedical batteries as a resource.

Working on batteries for medical devices was thrilling, Takeuchi told [SmartPlanet](#). "That field continues to be very exciting because the devices constantly need better energy storage," she said. "The battery will determine the functional limits of the device, as well as the lifetime and size of the device. That area was very exciting because it had a very tangible impact on human health. As I continued to work in energy storage, it became apparent that some of the thought processes, techniques and ideas we were using for solving the issues with bio-medically related batteries could be applied toward other types of energy storage."

Her most profound contribution to date is the implantable cardiac defibrillator, which was awarded the [National Medal of Technology and Innovation](#) by [President Obama](#). Because of her work, every year 300,000 patients receive a new chance at life. She said, "The importance of that work never diminishes because you realize just how profound the impact is not only at a societal level, but at the individual level."

Photo via SmartPlanet.

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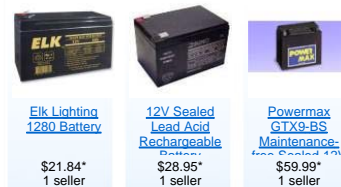
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