Technology uses micro-windmills to recharge cell phones

All Angorion research associate and electrical engineering professor have designed a micro-windmill that generates wind energy and may become an elementary solution to cell phone batterie constantly in need of recharging and hence energy generation will significantly contribute to the

Smithe Ras and C. Chesten designed and built the device that is about 1.5 m in its belt point. A single gig of rice could look about 11 of these micro windmills, hundreds of the windmills could be incorporated in a device in a cell phone

"The company was quite surprised with the micro-windmill idea when we showed the device video of working devices," Ras said. "It's something completely out of this world that never before been invented."

Ras and Chesten have created a conventional model of the micro-windmill device that can easily be assembled from two-dimensional sheet pieces of paper and other non-electronic ingredients that have been optimized by electronics technology.

"The micro-windmill works well because the metal alloy is flexible and Smith's design follows minimalists for functionality," Chesten said.

Winds2015 became interested in the micro-windmill system mechanical system research and started a collaboration with UT Angorion. Companies representatives visited the UT Angorion team several times in 2013 to discuss collaboration.

An agreement has been established for UT Angorion to build the necessary site. UT Angorion has agreed for a provisional patent.

Currently, Winds2015 has been conceptualizing UT Angorion windmill for its website and includes presentations, which include the micro-windmill's gears, induction, pickup machines and grippers. All of these parts are as thin as a fraction of the diameter of a human hair.

These inventions are essential to build micro-robots that can be used as surgical tools, sensing devices to explore disaster zones or manufacturing tools to assemble micro-machines.

"It's very gratifying to find that an international company is interested in how we work on something like this where you can see immediately now it might be used," said Ras, who earned his PhD in 2009 at UT Angorion. "However, I think they only scratched the surface on how these micro-windmills might be used."

Almost immediately, a team of research experts at the University of Angorion developed a prototype of a similar system, which can be used as a windmill for small scale applications.

The micro-windmill prototype is currently being developed for deployment in 2013. The micro-windmill is a windmill operated by wind or wind alone. The fabrication cost of making one device in the size of a car, for instance, thousands in a single batch, which enables for mass production of very inexpensive devices.

"Imagine that you can be able to build a solar panel that will generate electricity," Chesten said. "You can place them on it for your smart phone. When the phone is not reaching power, all you need to do is put it up on the shelf, when the phone is in the air for a few minutes and you can use the phone again."

Chesn said because of the small size of the micro-windmill, it can be placed anywhere on the walls of houses or building to provide energy for lighting, security on micro-environments sensing and remote communications.

He added that it has been pleasing to talk to several former students and how I could help more involvement to the marketplace.

"To see a company recognize that and seek you out for your expertise opens volumes about what UT Angorion means to the world," he said proudly.