Sit Still! Why?

This is a European minimalism stylized chair with blue cantilevers, streamlined back, single right armrest, functioning far from its nature as a piece of furniture: electricity generation.

Named after the meaning of "move", the MOOV Chair is designed by Nathalie Teugels, the design director of the Dutch agency Antwerp. The "move chair" derives from the piezoelectric effect it uses which, briefly, can transform the kinetic energy generated from vibration, pressure or movement directly into electric power.

"I want to encourage those who sit at desks for a long time to stretch a little bit. That's why I designed the chair legs as cantilevers, which makes the whole seem like a flexible leisure chair provoking users not to sit still on it. And this process generates electricity" Teugels told CBN Weekly.

Many of us were told to sit in an appropriate way, but inevitably having our legs restless or body twisting after sitting long. That is how the idea of MOOV Chair comes: to take advantage of those "bad manners". Teugels herself, indeed, has been suffered from Attention-Deficit Hyperactivity Disorder (ADHD) since she was a child and just completed her drug therapy last year. Her original intention to design MOOV Chair was also try to find a solution to distract herself.

It's the first time for her to realize the theory under the design named dancefloors, which generates electric power from the energy of body movement. Then she applied it to furniture design.

To collect kinetic energy to the greatest extent, Teugels added 280 piezoelectric sensors in the seat, back and the armrest of the chair. While you sit down, stand up or move it, the kinetic energy can be immediately transformed into electric power and stored in the embedded battery. Besides special interior devices, its external design also differs from ordinary chairs. A USB interface linked to its only armrest where mobile phones and laptops can be charged.

However, problems existed in applying the piezoelectric effect to a chair-most current power mechanic systems converting kinetic energy to electric power are oversized. It was Teugels' primary issue to figure out how to put the mechanical system used by sewing machine into a chair without being noticed. Eventually, she drew on the lesson from consumer electronic devices.

When she was making the MOOV Chair, Teugels was taking home design courses in a university in Belgium where there are no fittings she needed to assemble the mechanical system. She had to order every accessory from China, which means a long time waiting before she can test the product. She waited for a whole year to make the prototype of MOOV Chair.

To avoid the damage of mechanical system, Teugels designed a track in the wood seat which has just the appropriate size to protect the electric wires and piezoelectric device by a layer of spongy foam, which can also make it more comfortable.

Although the mechanical system is exquisite, the efficiency power conversion remained is not high enough. This is the biggest challenge MOOV Chair is facing in the research process. According to Teugels, the chair has no problem in getting a small LED light charged when someone sitting on it keeps moving, but when it comes to consumer electronic products, such as a powered-off phone, is another case- people have to sit and "twist" on the chair for a few hours. If you want those devices to be fully charged, it even takes as long as ten days, for the sensor in the chair is small with low quality.

"Yes, it takes too long. We're looking for a more suitable sensor to upgrade the system," said Teugels.

MOOV Chair is undoubtedly not the first chair with electricity generation ability. The Soofa chair developed by the MIT Media Lab has similar function, while it gets its electric energy from the sun. It's positioned as a public facility and to be used outdoors.

As Teugels pictured, MOOV Chair was more suitable in schools, offices or other indoor areas where people would spend a long time waiting or sitting. "If MOOV Chair can be used in these places, it will help to save a lot of electricity or, ideally, power the whole building," she proudly told the reporter her blueprint.

Recently, Teugels has received many emails, some of which are supports from ADHD patients, while much more come from companies seeking cooperation or providing funds. Teugels intended commercialize the MOOV Chair with an estimated price of £2,000 to 2,500. "But it's still too early to think about the pricing because the upgrade of dynamic system still has a long way to go. To be honest, I am short-handed. "

MOOV Chair is far from its ideal condition, but it can actually inspire the home industry seeking for transformation towards smart home that by using piezoelectric effect and combining piezoelectric crystal and raw material of furniture, energy generated from inevitable "petty action" in daily life can be transformed into electric power and collected for indoor use. Undoubtedly, this kind of environmental friendly concept is highly likely to become a prosperous of furniture design.

At least, Teugels firmly believes the home industry she has been in has raising increasingly attention on integrating practicability, artistry, technology and environmentalism in a better way.

Teugels is going to develop furniture capable of electricity generation. According to her, the next step is to extract electric power from plants. "MOOV Chair is just a beginning."