

SoftWheel system signifies wheelchair relief (w/ video)

May 8 2014, by Nancy Owano



An Israeli startup SoftWheel has a wheel system that could bring significant relief for those in need of more comfort and efficiency when confined to a chair for moving around. Reliance on a wheelchair on smooth city sidewalks or indoor malls is enough of a hardship; sitting in a conventional chair off city limits, going across the ups and downs and rocky fields and paths takes an even greater toll on the wheelchair user's body. Wouldn't it be grand if the wheel, not the user, could absorb most of the shocks that come with all the impact encountered in getting from A to B? An Israeli farmer and inventor who found himself confined to a wheelchair after an accident got to understand the difficulties firsthand and decided to do something about it. What about some fresh thinking focused on the wheel? Gilad Woolf began work on improving wheelchair design.

The result of his efforts, with encouragement and financing from Israel's RAD BioMed Accelerator and a team of experts, is called SoftWheel, from the company with the same name. The SoftWheel team has collaborated with Ziv-Av Engineering Group on wheel technology for a [suspension](#) system that can absorb the shocks. SoftWheel CEO Daniel Barel, quoted in *The Jerusalem Post*, said, "Whereas 30 to 35 percent of the propulsion energy provided to a typical wheel goes into the suspension – to sustain sagging and bobbing – approximately 97 percent of the propulsion energy provided to the SoftWheel system goes right into the [wheel](#) itself. Barel said the company's suspension technology is an integral part of the wheel.

Ahishay Sardes, project manager for Ziv-Av, was also quoted in the report. "The engineering challenge was to create a wheel that contains a suspension system that responds selectively, say, when encountering obstacles."

When the chair hits bumps, the wheel's hub moves into action. This is where the company's "selective suspension technology" comes into play,

extending or shrinking symmetrically as needed and reducing the shock. Sardis said it is the wheel that absorbs most of the blow, not the vehicle or the user's body.

Barel and his team do not see future business growth confined to wheelchairs alone; they are confident the [wheel](#) could be a significant application for bikes and eventually for other systems, even including airplane landing gear.



According to *Wired*, the Israeli company is getting ready to start selling its SoftWheel [wheelchair](#) wheels on sale by the end of this [year](#) at around \$2,000.

More information: www.softwheel.co.il

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Citation: SoftWheel system signifies wheelchair relief (w/ video) (2014, May 8) retrieved 13 March 2024 from

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