

Exoskeleton keeps up with flow on the streets of New York

July 16 2015, by Nancy Owano



ReWalk Robotics, is a medical device company which has created ReWalk, an exoskeleton. The company team is focused on exoskeletons

that can allow wheelchair-bound people to stand up and walk—not just in the rehab rooms of hospitals and clinics but in the real world of community and home.

Users would include those with [spinal cord injuries](#) resulting in complete or incomplete paralysis of the legs. Factors such as bone density and range of motion are evaluated during screening.

ReWalk's features and components include accelerometers that can detect when a user shifts weight and is ready to take a next step; battery-powered motorized legs; and the control of knee and hip movement via on-board computers and software.

On Wednesday, writing in *IEEE Spectrum*, Eliza Strickland reported on the ReWalk being alive and well in an ambitious real-world setting.

Robert Woo, an architect, showed how it works out of the lab and on to the streets of Manhattan. The paralyzed demonstrator had strapped on a pair of his robotic legs, stepped out of a hotel, to become part of Manhattan's ambitious, can't stop-now flow of pedestrians navigating a sidewalk in midtown.

He was showing the newly launched [company](#) product, ReWalk 6.0. This is an exoskeleton that is being promoted for its walking speed, natural gait and ability to be precisely fit to its users.



Design changes showing up in the newest 6.0 version include slimmed-down leg [braces](#), support straps that distribute the weight more evenly around the body and a replacement of the backpack that houses the processor with a smaller fannypack, said Strickland.

Software upgrades enable smoother gaits, easier stopping mechanism, and improved mode for ascending and descending stairs. A wristwatch-like controller worn by the user can switch suit modes among sit, stand, walk, and stair.

According to *IEEE Spectrum*, CEO Larry Jasinski said the stair mode has not yet been approved by U.S. regulators but the company submitted the paperwork to the FDA and hopes for approval soon.

Clinical research on the ReWalk device showed users can walk at [speeds](#) up to 0.71 meters /second, faster than other exoskeletons, said the company. Fast enough for a day in mid-Manhattan?

Strickland reported that "the fast-walking New Yorkers didn't slow down or clear space for him" as he [walked](#).



This demo resonates with the dreams of Dr. Amit Goffer, company founder and CTO. Jasinski told *IEEE Spectrum* in an interview before the New York demo that Goffer, the inventor of the ReWalk system, did not want to build an [exoskeleton](#) that could only be used in physical therapy settings or only within the confines of the person's home. "He always asked, 'What will make this functional in the community? Can it go over a curb?'"

"U.S. regulators approved a prior version of the ReWalk system for people with spinal cord injuries, and cleared it for both clinical and personal use," said Strickland.

Last year, the US Food and Drug Administration gave ReWalk clearance to market a prior version of the product for home and community use; ReWalk has also received clearances in "several global geographies," it said, including places in Europe, Australia, New Zealand, Asia, and the Middle East.

The company also makes a ReWalk Rehabilitation system, which is for use in clinical rehabilitation environments. The system is designed to provide a means of exercise and therapy as well as training base.

More information: rewalk.com/rewalk-personal-3/

Citation: Exoskeleton keeps up with flow on the streets of New York (2015, July 16) retrieved 2 May 2024 from <https://techxplore.com/news/2015-07-exoskeleton-streets-york.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.