

## ONWARD's Research Partner .NeuroRestore Publishes Groundbreaking Paper Identifying Neurons that Restore Walking after Paralysis

*Data from all nine participants in STIMO trial published in Nature*

*Researchers identify specific neurons activated and remodeled by spinal cord stimulation that enable patients to walk*

EINDHOVEN, the Netherlands, LAUSANNE, Switzerland & BOSTON, MA USA — November 10, 2022 – ONWARD Medical N.V. (Euronext: ONWD), the medical technology company creating innovative therapies to restore movement, independence, and health in people with spinal cord injury (SCI), today reported that a new study by scientists at .NeuroRestore, ONWARD's research partner, has identified the specific neurons that are activated and remodeled by spinal cord stimulation, enabling individuals with spinal cord injury to stand, walk and rebuild their muscles. This discovery marks a fundamental, scientific breakthrough. The study was published yesterday in [Nature](#).

In the multi-year STIMO study, coordinated by .NeuroRestore's co-directors – Grégoire Courtine, a neuroscience professor at EPFL and Chief Scientific Officer of ONWARD, and Jocelyne Bloch, a neurosurgeon at Lausanne University Hospital (CHUV) – participants with paralysis due to spinal cord injury underwent targeted epidural electrical stimulation of the area of the spinal cord that controls leg movement. Remarkably, all participants regained motor function and the ability to walk. Three participants in the study pioneered use of an innovative lead developed by ONWARD to specifically target the areas of the spinal cord involved in leg and lower trunk movement with the intent to facilitate faster and more effective recovery of motor function.

The scientists believe it is crucial to understand exactly how neuronal reorganization occurs to develop more effective treatments and improve the lives of as many people as possible. The press release by EPFL can be found [here](#).

“The findings published yesterday continue to build our strong knowledge base in spinal cord stimulation to help people with paralysis. As a result of this study and its accompanying scientific breakthrough, ONWARD and its research partners have learned precisely where to place the epidural lead and how to program stimulation to facilitate walking,” said Dave Marver, CEO of ONWARD. “This important work is enabling us to develop a therapy for people with spinal cord injury that aims to be precise, repeatable, and scalable.”

### **About ONWARD Medical**

ONWARD is a medical technology company creating innovative therapies to restore movement, independence, and health in people with spinal cord injuries. ONWARD's work builds on more than a decade of basic science and preclinical research conducted at the world's leading neuroscience laboratories. ONWARD's ARC Therapy, which can be delivered by implantable (ARC-IM) or external (ARC-EX) systems, is designed to deliver targeted, programmed spinal cord stimulation to restore movement and other functions in people with spinal cord injury, ultimately improving their quality of life.

ONWARD has received five Breakthrough Device Designations from the U.S. FDA encompassing both ARC-IM and ARC-EX. ARC-EX is an external, non-invasive platform

consisting of a wearable stimulator and wireless programmer. Positive top-line data were reported in September 2022 from the company's first pivotal study, called Up-LIFT, evaluating the ability of ARC-EX Therapy to improve upper extremity strength and function. The company is now preparing marketing approval submissions for the U.S. and Europe. ARC-IM consists of an implantable pulse generator and lead that is placed near the spinal cord. The company completed its first-in-human use of the ARC-IM neurostimulator in May 2022.

ONWARD is headquartered in Eindhoven, the Netherlands. It maintains a Science and Engineering Center in Lausanne, Switzerland, and has a growing U.S. presence in Boston, Massachusetts. The company has an academic partnership with NeuroRestore, a collaboration between the Swiss Federal Institute of Technology (EPFL) and Lausanne University Hospital (CHUV). For additional information about the company, please visit [ONWD.com](https://onwd.com). To access our 2022 Financial Calendar, please visit [IR.ONWD.com](https://ir.onwd.com).

**For Company Enquiries:**

[info@onwd.com](mailto:info@onwd.com)

**For Media Enquiries:**

MC Services AG

U.S.: Laurie Doyle, P: +1 339 832 0752

Europe: Dr. Johanna Kobler, Katja Arnold, Kaja Skorka P: +49 89 210 228 0

[media@onwd.com](mailto:media@onwd.com)

**For Investor Enquiries:**

[investors@onwd.com](mailto:investors@onwd.com)

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