EXOSKELETON REPORT

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TESTIMONIAL

PERSONAL STORY OF AN OCCUPATIONAL EXOSKELETON USER

IX BACK AIR

NEW EXOSKELETON FROM SUITX BY OTTOBOCK

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Cover Image: IX BACK AIR, courtesy © SUITX by Ottobock

Header Image (above): WearRAcon Europe at A+A Banner Ad

USER EXPERIENCES

Eamonn's Personal Story for Using a Back-Support Exo

Interview with Eamonn, a professional farrier who discovered and purchased an Auxivo LiftSuit to help with his daily work tasks.

Photos: Courtesy of Eamonn

How did you get started using an occupational exoskeleton?

I'm a farrier of over 35 years and have all the usual back issues that most 56-year-old farriers have. I happened across the exoskeleton suit on a Dutch online farrier website and immediately felt that this made sense and would probably help me.

I took a gamble and ordered it. When it did arrive, it took a bit of time to fit it correctly.

> WHAT ABSOLUTELY AMAZED ME WAS THE IMMEDIATE AND DEFINITE RELIEF IT GAVE.

I work at the Donkey Sanctuary Ireland and do quite large numbers of trims on the mornings I'm there. If I do not wear the suit then I can do 2 donkeys and whilst doing the second one I begin to feel my back. At this point if I put on the suit I can continue and do up to 40 more without pain medication. I wear it for all my shoeing work.

It has become as important to me as my shoeing apron and I strongly suggest that it should be part of every farriers kit. I am also convinced that if I had worn the lift suit years earlier that my back wouldn't have the wear and tear issues that it now has.

For how long have you been using the exoskeleton now?

I first had a suit with the standard elastics and then Auxivo sent me one with the red elastics which I find much better. Sometimes I feel that even stronger ones would be better suited to our job(work position). So all in all I'm using it for about 5 months now.

It did take a while to get used to it as farriers do repetitive movements that wouldn't have been taken into consideration when it was developed. But all in all I now know that the exoskeleton suit is a vital part of my farrier attire.

My honest thoughts are that I would have to reduce my workload drastically if I didn't have the exoskeleton suit. Probably in excess of 50%. So the exoskeleton suit is and will be an integral part of my work attire as long as I'm able to work.

SUITX by Ottobock Launches the IX BACK AIR

Photos: IX BACK AIR, © SUITX by Ottobock

This week marked the release of the IX BACK AIR passive back-support exoskeleton under the new “SUITX by Ottobock” umbrella brand. This is the next step in occupational exoskeleton evolution and the continuation of the integration of suitX with Ottobock.

Potentially, this marks the end of the “Paexo” brand. As of this publication, the old paexo.com leads to the new SUITX website. This was likely done to leverage the already existing brand recognition of suitX and Ottobock.

The IX BACK AIR is a direct successor to the backX. The new model is designed to be lighter (under 6.8 lbs. or 3 kg) and more comfortable without compromising its load reduction capabilities to the lower back when leaning forward by over 56-75%.

“We are combining the innovative strength of both companies, both structurally and in terms of our brand, in order to further expand our market leadership,” explains Martin Böhm, Chief Experience Officer at Ottobock. “With this step, we are strengthening our exoskeleton business worldwide, especially in the core market of the USA. More than 2,000 customers are already using the solutions from ‘SUITX by Ottobock,’ including leading automotive manufacturers such as Toyota North America and logistics service providers such as DB Schenker....”

A slimmed-down profile of the wearable allows the new model to be worn under mandatory safety gear such as safety vests. The IX BACK AIR can also disengage to allow greater freedom of movement.

The IX BACK AIR is lighter and has fewer straps than its predecessor, yet it retains the chest plate. Anecdotally, this has been the most challenging aspect of back support exoskeletons with a rigid structure between the chest and the hips. It will be fascinating to discover with time what modifications and customizations have been made available on the new model to increase its comfort.

The expected price for the new model can be tested in a working environment as part of the Experience package (from EUR 2,900 or USD 2,990).

Discover the IX BACK AIR for yourself at suitx.com

Ottobock is also scheduled to present at the WearRAcon Europe Exo Park at A+A.

Photos: courtesy of the Global Innovation Challenge Executive Committee

Global Innovation Challenge 2023: Living Assitance Robot Contest

The Global Innovation Challenge Executive Committee (Headquarters: Minato-ku, Tokyo; Chair: Tatsufumi Uemura) held the Global Innovation Challenge (GIC) 2023 on June 24, 2023. The event was held for the first time at the GIC Tsukuba Innovation Center in Tsukuba City, Ibaraki Prefecture (Japan). The previous iteration was held remotely due to the global pandemic. The content of the challenge was the same as the previous GIC 2021, except for an added time limit set to increase the difficulty of the contest.

The contest had a prize fund of $1,000,000, and this was the first year the challenge was held in person in Japan as intended.

The Global Innovation Challenge 2023 Living Assistance Robot Contest was held with the theme of robots that support the daily lives of people with disabilities, intending to realize a society that is unaware of disabilities. One team from Japan and two teams from overseas entered the contest.

This year, the document screening portion of the competition was significantly more stringent, and only Team WPAL was allowed to compete and attempt to complete three tasks: task 2, Preparation; task 3, Meal; and task 4, Laundry.

MORE INFO https://global-innovation-challenge.com/en/

The Global Innovation Challenge Puts the Idea of Home-Use Medical Exoskeletons to the Test

Seven activities of daily life were chosen as the tasks for the competition. They had to be completed in a livable apartment (in other words, in a realistic, non-lab setting) by users with a mobility disability. The seven tasks chosen are: moving and sitting on a toilet, washing the face, preparing and moving a meal to a dining table, working with laundry, receiving a packing at the front door, vacuuming, taking out the trash (cleaning), and going to a bathtub. All tasks had to be performed with the help of a wearable robot.

For the 2021 iteration, all teams recorded and sent videos to the competition. The challenge organizers compiled a short digest. The summary and five hours of the competitor's footage can be found on the Global Innovation Challenge YouTube channel.

Members of Team WPAL, courtesy of the Committee

WPAL (Wearable Power-Assist Locomotor) is a robot jointly developed by Fujita Health University and Tomei Brace Co. It is approximately 100 cm in height, weighs approximately 13 kg, and can walk at a maximum speed of 1.3 km/h. The robot is controlled by a switch attached to the walker.

The robot is unique in that the actuators are located on the inside of both lower limbs of the pilot. The structure is very stable and not susceptible to left-right sway.

The controller and battery are mounted on the walker, making the pilot perceive a lightweight, simple outer worn robot. Another feature of this robot is that it can be worn while seated in a car chair.

Photos: Demonstration scenery, courtesy of the Global Innovation Challenge Executive Committee

Tasks completed: two

Team Interviews:
YOUTUBE

Registration is already open for the 2024 Global Innovation Challenge! This is the perfect opportunity to put your home-use walking assist medical exoskeleton concept or product to the test!

The National Safety Council (NSC) has published a 26-page report on emerging technologies for the reduction of work-related musculoskeletal disorders (MSDs). The paper was prepared in partnership with Safetytech Accelerator and MSD Solutions Lab.

The paper introduces work-related injuries as a persistent problem that has yet to be eliminated, and therefore, employees and employers can benefit from emerging technology in the context of Industry 5.0. The report presents occupational exoskeletons not in a vacuum but as one of five new solutions: computer vision (to quickly calculate risk), wearable sensors, exoskeletons, cobots, and extended reality.

The NSC does an excellent job presenting exo technology not as a unique and experimental job aid but as part of a family of new technologies that aim at reducing MSDs. You can access the full report for free through the NSC website: https://www.nsc.org/faforms/fa-confirmation/msd-emerging-tech-report

The introduction stands out: “Emerging technologies offer potential solutions to workplace hazards including reducing physical strain on workers… the emerging technologies market is fragmented and complex due to the vast array of tools and systems available and their constant evolution.”

CYBERDYNE Inc. has secured public insurance coverage in Japan for treating HTLV-1 Associated Myelopathy (HAM) and Hereditary Spastic Paraplegia using their Medical HAL. This approval, based on robust clinical trial data, enables reimbursement for medical institutions, facilitating enhanced treatment accessibility for patients. The approval is a pivotal step in accelerating the adoption of Medical HAL, providing a new treatment option and promoting it as a standard treatment for an estimated additional 4,500 patients in Japan, and eventually, worldwide.

CYBERDYNE

The insurance coverage, confirmed by a notice posted on the MHLW website, will apply once the Guide for Appropriate Use is revised. It includes specific reimbursement points for ambulatory exercise treatment with the robot suit, Medical HAL. Full Press Release: LINK

KESSLER FOUNDATION
Changing the lives of people with disabilities

WANDERCRAFT

Wandercraft, a pioneer in self-stabilizing walking exoskeletons, has inaugurated its commercial operations in the United States, marking the commencement of Atalante X research at the Kessler Foundation. With its new corporate headquarters nestled in New York, Wandercraft aims to revolutionize the standards of care in the realm of mobility impairments. The Atalante X exoskeleton is a self-balancing powered exoskeleton cleared for clinical use by the FDA in December of 2022. The Kessler Foundation plans to conduct comprehensive research to explore the exo's potential benefits for individuals recovering from neurological impairments such as strokes, spinal cord injuries, and motor neuron diseases.

The research team at Kessler, led by Gail Forrest, Ph.D., Karen J. Nolan, Ph.D., and Ghaith Androwis Ph.D., is one of the most experienced ones with powered walking assist exoskeletons in the world and will be tasked with analyzing the impact of the Atalante X, focusing on its integration with the user's neuromuscular system to facilitate walking and balance. This collaboration heralds a promising era of advanced robotic-assisted walking solutions, aiming to offer a transformative pathway to recovery for patients grappling with severe mobility challenges.

HARMONIC BIONICS
Powering a Better Quality of Life.

Harmonic Bionics has successfully sold its first of two Harmony SHR™ robotic rehabilitation systems to the Barrow Neurological Institute in Phoenix, AZ. This marks the inaugural clinical installation following FDA registration earlier this year. The Harmony SHR™ is a bilateral upper extremity fixed-frame exoskeleton. It is designed to enhance the natural arm range of motion for patients recovering from neurological or musculoskeletal impairments.

Barrow, recognized as one of the country's best hospitals for physical rehabilitation, aims to leverage this advanced technology to improve therapy outcomes for patients with upper extremity deficits, reinforcing its commitment to providing access to cutting-edge rehabilitation tools and technologies.

One unit (already installed) will be used in the hospital's inpatient program, while the second, scheduled for delivery in November, will be used primarily in Barrow's outpatient facility.

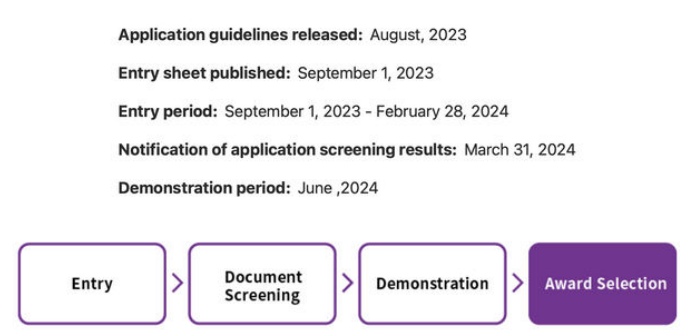
Full press release: LINK

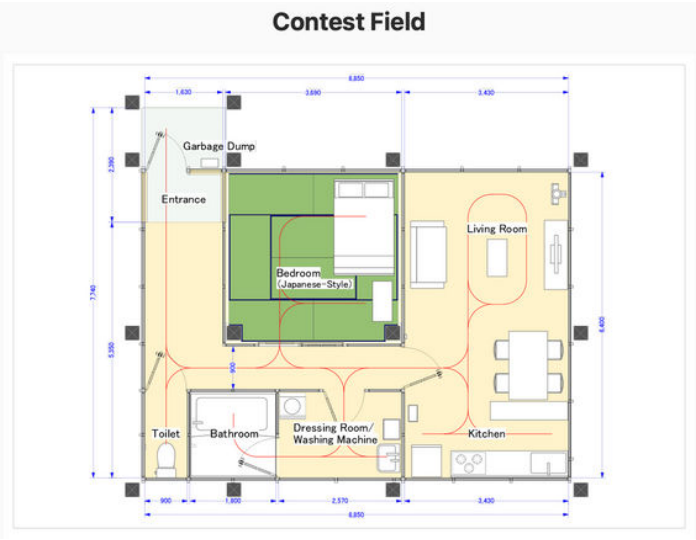
On The Horizon

Header: Road to Horizon by quickshooting via Getty Images

Global Innovation Challenge Returns in 2024: Life Support Robot Contest

Planning for the Global Innovation Challenge began in 2017 with the goal of inviting participants to Japan in 2020, but due to the pandemic of the new coronavirus infection, the Executive Committee decided to hold the Global Innovation Challenge 2021 as a remotely judged competition. You can see the results and videos from that contest on the ExR website.





Photos: courtesy of the Global Innovation Challenge Executive Committee

For the first time in 2023, the contest could be held at a venue in Tsukuba City, Ibaraki Prefecture (about one hour from central Tokyo).

The organizers continue to publish on their website the outline of the Global Innovation Challenge 2024, which is set as a challenge for daily life at home. The prize fund will be substantial and the competition is an opportunity to test walking-assist medical exoskeletons in a simulated home-use environment.

For more information on the Global Innovation Challenge 2024: Life Support Robot Contest, see :

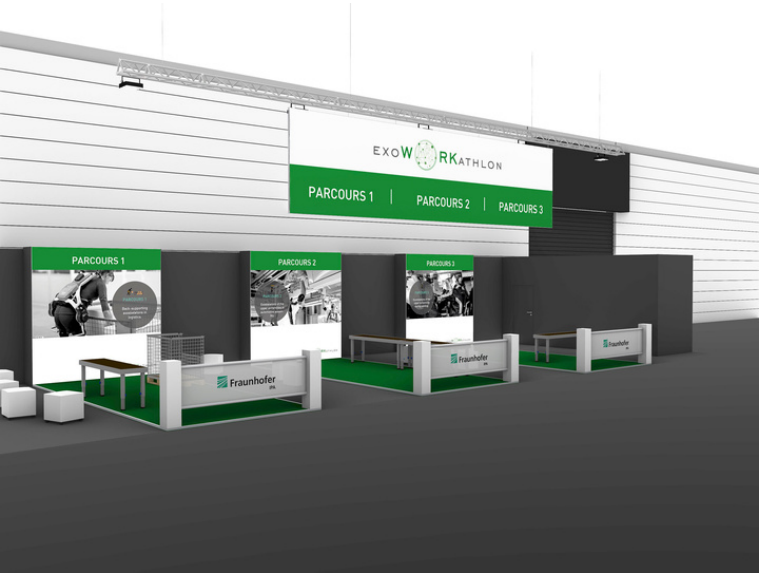
- Website
- Global Innovation Challenge - YouTube Channel

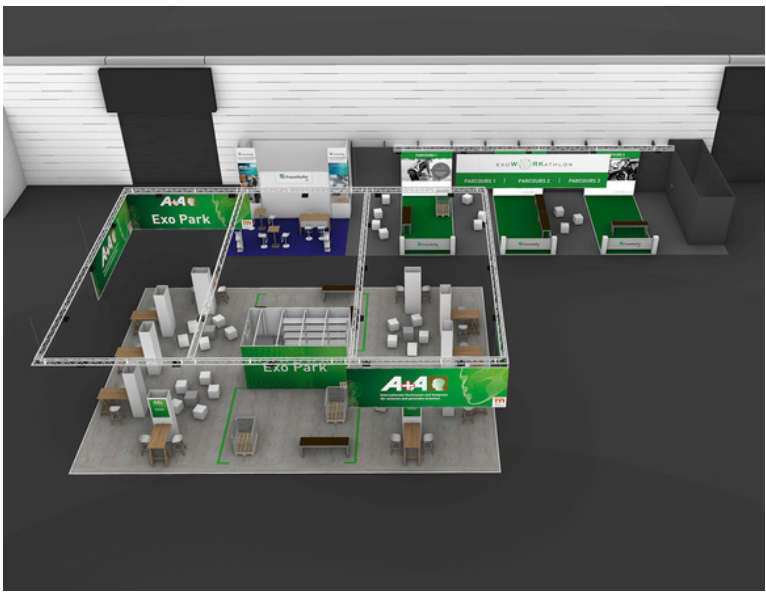
Photos: Photos: Messe Düsseldorf/ctillmann via WearRA

The Wearable Robotics Association (WearRA) has shared with ExR 3D renders of the expected layout of the Exo Park at the A + A Trade Fair at Messe in Düsseldorf, Germany, which is scheduled to take place at the end of this month.

Not all occupational exo companies at the trade fair will be in the Exo Park, but the ones at the ExoPark will also be in direct proximity to the ExoWorkAthlon and the Parcours that will be running throughout the day.

Tickets, program, and additional information: link





A+A

International trade fair and congress for safety and health at work.

SEE YOU AT

WearRAcon EUROPE

25-26 OCTOBER 2023 DURING A+A

24 - 27 OCTOBER 2023
DÜSSELDORF, GERMANY

People matter. www.AplusA-online.com

Partner:

Fraunhofer IPA

University of Stuttgart
Institute of Industrial Manufacturing and Management IFF

WearRA
WEARABLE ROBOTICS ASSOCIATION

Messe Düsseldorf

EVENTS CALENDAR

OCT 23 — All day
ErgoX 2023

WearRAcon EUROPE
Fraunhofer IPA

OCT 24 — October 24 - October 25
WearRAcon Europe 2023

NOV 8 — November 8 - November 10
National Ergo Conference
$1,395

NOV 20 — November 20 - November 22
IBERDISCAP 2023 Conference
245€

Committee F48 Exoskeletons and Exosuits
ASTM

APR 10 — April 10, 2024 - April 12, 2024
13th Meeting of Committee F48 on Exoskeletons
Free

APR 16 — April 16, 2024 - April 17, 2024
ExoBerlin 2024

Committee F48 Exoskeletons and Exosuits
ASTM

DEC 9 — December 9, 2024 - December 12, 2024
14th Meeting of Committee F48 on Exoskeletons
Free

Find out more about these upcoming events at the ExoskeletonReport.com Events Calendar.

If you know of any upcoming exo-focused events that are not listed above, let us know by sending an email to: hello@ExoskeletonReport.com

The Exoskeleton Report (ExR) e-magazine is written and produced by Borislav “Bobby” Marinov and the Exoskeleton Report.

The material was prepared with the aid and assistance of Daniel Walker, Gus Vogel, and Inna Marinova.

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As always, I am grateful to Tri Dao, who continues to be the central pillar behind ExR.
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Reach out:

We welcome all feedback, comments, suggestions, news submissions, or inquiries regarding advertising or consulting! Contact us using our email:

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- Hello@ExoskeletonReport.com

Or by utilizing our contact form at:

- https://exoskeletonreport.com/contact-us/

📷 **Above:** About Us... by Rolling Camera via Getty Images