



maxon drives help people walk again

Swiss motors are driving exoskeletons all over the world

At the first Cybathlon in Zürich, researchers are presenting the world's best exoskeletons – devices that enable paraplegics to walk again. Motors from Switzerland play a central part in this development.

On October 8th, people with paraplegia are going on a footrace at the Cybathlon in Zürich. Aided by exoskeletons, they will compete against each other on an obstacle course to show the public how far advanced technology has come in this area.

Switzerland is playing a central role in this process. Many of the exoskeletons are fitted with components from the canton of Obwalden – components without which there wouldn't be a lot of movement to be observed.

From the planet Mars to an exoskeleton

Robotic suits have to be both powerful and lightweight. Too much weight would cause the battery to drain in no time. This presents a big challenge to developers. Most of the motors that are strong enough to power an exoskeleton are large and heavy. This is why engineers are turning to the Swiss company that already developed the drives for NASA's Mars rovers: maxon motor. maxon drives are powerful, lightweight, and energy-efficient, meaning that they can conserve battery power, and be very durable.

“We spent decades perfecting our motors”, says maxon CEO Eugen Elmiger. A lot of money has gone into research and development. It was worth it: These days, the motors from Switzerland can be found everywhere, in robots, airplanes, cars, and medical devices.

Knowledge yields an advantage in the market

Providing competent technical support for customers is just as important as delivering high-quality products. Small businesses and start-ups often approach maxon with specific drive technology problems that they lack the expert knowledge to solve by themselves. maxon motor, in turn is able to help with its extensive experience in the field, a strength that lets the company stand out from the international competition. "Our knowledge and the ability to give expert advice are a great advantage in the market," says Elmiger. The Cybathlon is a good example: In the field of exoskeletons, the Swiss company has a pretty clear idea about what's important besides choosing the right motor. As a result, quite a few of the participating teams are using products from Switzerland. The same is true for other disciplines, such as prosthetic arms or legs and electrical wheelchairs.

For examples, read maxon's exclusive Cybathlon brochure or visit the new site for technology enthusiasts - drive.tech.

maxon supports the Cybathlon as a sponsor and partner

The Cybathlon games are organized by the ETH Zürich and are being held for the first time on October 8, 2016 at the Swiss Arena in Zürich. Around 80 teams from all over the world will be participating. The machine-assisted competitors will compete against one another in six disciplines: prosthetic legs, prosthetic arms, exoskeletons, motorized wheelchairs, bicycles with muscle stimulation, and virtual racing using thought control. What's not allowed at the Paralympics is an absolute must at the Cybathlon: the use of state-of-the-art technology. "Our aim with the Cybathlon is to break down barriers between the general public, people with disabilities, and scientists," says ETH professor Robert Riener, who invented the Cybathlon.

The Swiss drive specialist maxon motor supports the Cybathlon as a sponsor and partner. The company will be present at the games with a workshop for the teams and a small exhibition about the history of prosthetics.



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