MEBSTER helps paralysed people get back on their feet

The founders of the Czech startup MEBSTER have developed the first affordable exoskeleton designed to support the muscles of people who have lost function in their lower limbs. Wheelchair users can put on the company’s device in a few minutes and thus regularly improve their physical condition and quality of life. CzechInvest enabled the startup to present its product in Singapore and assisted with its certification.

More than a million people around the world become paralysed from the waist down every year. Annually, 750,000 cases of spinal-cord injuries occur and 40% of people who suffer such injuries end up as paraplegics. Their treatment is very expensive, time-consuming and painful. Assistive rehabilitative exoskeletons for such persons are continuously being developed and production is rising. However, most such devices cost millions of korunas and thus are not affordable for the average person. The startup MEBSTER is trying to change that by providing the most favourable price-quality ratio.

Founder of the startup MEBSTER Michal Gloger studied robotics in Ostrava and started developing the UNILEXA exoskeleton with his team at the Moravian-Silesian Innovation Centre.
“I worked on various continents for more than five years, during which time I collected a large amount of data and experience in the area of research and development of roboticised rehabilitative equipment and I came across a disturbing paradox. Complicated technologies are being developed for people who can't afford them,” says Michal Gloger, founder of the startup MEBSTER, adding: “After returning from Japan, I established a company in the Czech Republic with the aim of bringing to market a device with an optimum ratio of not only price and quality, but also safety and functionality. UNILEXA was thus developed. It’s a tool that motivates people with disabilities to live a more active and higher-quality life and gives them the will to not give up.”

Gloger studied robotics in Ostrava and started developing the UNILEXA exoskeleton with his team at the Moravian-Silesian Innovation Centre. He originally wanted to create a motorised exoskeleton, but in the end chose a simpler version that would be affordable for everyone, including Jaroslav Klimeš, a carpenter who became confined to a wheelchair after being injured. He tests the UNILEXA device and is assisting with its development.

MEBSTER supports both medical centres and individuals in their home environment by means of its smart and assistive technologies, i.e. aids that help to improve the physical and mental condition of persons who have suffered loss of function for various reasons. The company is providing UNILEXA Prime exoskeletons to medical centres and hospitals such as the ParaCENTRUM Fenix organisation, Hamzova léčebna and České Budějovice Hospital, thus facilitating healthcare specialists’ work with their clients, primarily paraplegics. For individuals, the company also offers the UNILEXA Home version, which is custom made according to the client’s needs.

In comparison with the competition, the advantage of the UNILEXA device consists in its design, affordability and functionality. It is attached to the inner side of limbs and is easily fitted directly from a wheelchair. After the wearer has put on the device, gravity goes to work. The wearer leans forward and to the side and can slowly start walking.

UNILEXA is already on sale in the Czech Republic, has been awarded a Czech patent and has been approved by the State Institute for Drug Control as a Class I medical device. It also fulfils all legislative requirements and standards for sale in the European Union with the CE marking. The company now wants to obtain patent protection also on foreign markets.

Unilexa excels due to its affordability, functionality and design
CzechInvest helped the startup with certification of the product and protection of intellectual property. Within its CzechStarter programme in 2019, the agency provided the company with more than one hundred hours of mentoring with experts in various areas. In addition to the marketing strategy and financial plan, the startup’s representatives worked with the mentors primarily on patenting the product, including filing an application with the Czech patent office. They also made extensive use of legal services associated with drafting an NDA (a two-party agreement on not disclosing information to third parties) and the entry of an investor.

“Thanks to CzechInvest’s mentors, we were able to sharpen our business strategy, more rapidly obtain certification and patent our first product,” says Gloger, adding: “Filling out the application forms at the patent office is not an easy matter. It is necessary to have a lot of knowledge as well as sufficient financing.”

Also in 2019, MEBSTER used the CzechMatch and CzechDemo programmes, which enabled the company to travel to Singapore. “Thanks to our participation in those programmes, we were able to present our product abroad for the first time and thus gain interesting contacts to future business partners,” say Gloger. While in Singapore, the startup’s representatives attended the Innovfest Unbound conference and the matchmaking events that preceded it. “We met with a record number of investors; I didn’t expect such attendance. After the presentation, we received from attendees very substantial enquiries regarding not only our business model, but also certification of medical devices, which very well reflected the audience’s expertise,” Gloger adds.
At present, MEBSTER is focusing on digitalisation and building up a quality-management system in order to be prepared for certification of medical products in higher risk groups, such as UNILEXA POWER – an active version of the UNILEXA family of products – and UNILEXA with a module for monitoring the stride cycle. In addition to that, MEBSTER is starting to focus on rehabilitation of the upper limbs.

Gloger is aware of his startup’s competitive advantages and has global ambitions for it.

“Expansion abroad is absolutely essential for us. We’re working on thorough market research in cooperation with, for example, CzechTrade so that we will be ready to set out for the initial foreign markets next year. There is awareness of our attributes – design, affordability and functionality – in Italy and Spain, for example. However, we would also like to penetrate markets outside of Europe, particularly South America and Asia,” Gloger says.

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