



**DOMINIK HEPP AND TOBIAS KNOBLOCH**

**SUCCESSSTORY  
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# HKK Bionics GmbH

Grab despite a paralyzed hand – “empowering motion” is the slogan and objective of the start-up HKK Bionics based in Ulm. Therefore, the founders developed a myoelectric hand orthosis, which means a battery based exoskeleton glove that moves the paralyzed hand. The orthosis, the exomotion® hand one, is delivered as different modules to medical supply shops with orthopedic workshops, i.e. the medical supply store “Häussler” in Ulm. The different components of the modules are used to build an individual aid for every paralyzed hand. With the aid the patient can do everyday tasks such as cutting bread, carry a laundry basket or fill a glass with water without any help again. For a person with two healthy hands these tasks seem to be simple but with only one functional hand these tasks are almost impossible to do.



Behind innovative inventions, their implementation and the companies that create them, there are always people with a passion for progress and development, who make these things their life-goals. They have the urge to turn ideas into reality, to improve on existing conditions, in the world in general and in their own lives.

The orthosis is controlled by a sensor placed on the skin. Small muscle activity can be recognized by the sensor. Signals like “open”, “close” and “stronger grip” can be sent by the patient with the muscle activity. The intelligent software controls the drive motors and recognizes if the finger contacts the intended object, which means the finger close automatically around the object without squeezing it too strong.

HKK Bionics is a spin-off from the Ulm University of Applied Science. Originally the founders were working on a project developing a hand prosthesis, a replacement for an amputated hand. “In our modern society the need for an aid for paralyzed hands has been much higher than the need for an aid for missing hands” knows Dominik Hepp, medical engineer. Already in 2015 Dominik Hepp and his co-founder Tobias Knobloch shifted the focus from developing a prosthesis to developing

an orthosis. Unfortunately, the need for electrical orthosis and the availability on the market isn't the same. The EXIST scholarship helped the two founders developing a first prototype. Since the founding in 2017 the company won a few innovation prizes. Last year they won the “Cyberone Hightech Award” in the category “Life Science”, a special award for companies in Baden-Württemberg.

In the future the two founders want to help people who lost their gripping function due to strokes, nerve injuries or diseases like multiple sclerosis. Since the beginning of this year the medical device is approved for human application and the production of the first supplies has started. “The corona pandemic has slowed down our market entry but by following the official precautions most of the supplies are still possible” says Dominik Hepp.

[www.hkk-bionics.de](http://www.hkk-bionics.de)

These people put their knowledge, passion, money and time into projects which then, ideally, meet with success. Concrete examples of success such as these are the best motivation!

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[www.nanuuu.de](http://www.nanuuu.de)

