

Prosthetic limb LegBank receives \$1m Google grant

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Prosthetic limbs made with technology developed at the University of Strathclyde are to become more readily available through a \$1 million grant from Google.org.

Dutch-based social enterprise company ProPortion has received the funding from the charitable arm of search engine Google for its LegBank venture, which provides high-quality limbs to amputees on low incomes.

The limbs use a hands-free device, known as Majicast, which is used for manufacturing lower limb prosthetic sockets. It has been developed by researchers in Strathclyde's Department of Biomedical Engineering and engineers with design company Reggs.

The Google.org funding will enable production by LegBank, and its distribution to developing countries, to be expanded. It is initially focusing on Colombia, which has one of the highest number of landmine victims worldwide; the devices have killed or injured more than 10,000 people in the South American nation in the past 25 years.

The venture could be adapted for use in other countries alongside its pilot programme in Colombia.

Dr Arjan Buis, a Senior Research Fellow in Strathclyde's Department of Biomedical Engineering, led the team which developed the Majicast. He said: "We are delighted that proportion has received this funding from

Google.org. It will make a significant contribution to Legbank's work in delivering high quality prostheses to people who need them - but often have great difficulty getting access to them.

"At Strathclyde, we seek effective, practical solutions to the world's most urgent challenges. In partnership with ProPortion and LegBank, we are addressing a major and long-standing problem in a sustainable manner, with the aim of the project becoming a well-organised, impactful international venture."

The socket in the Majicast is the component which connects prostheses securely to patients' residual limbs. It is unique to each person and is therefore crucial for pain-free walking. Sockets produced with this device can increase user comfort and stability and make the devices fit better, subsequently resulting in enhanced quality of life. In addition, the total time and costs for socket production decrease by an estimated 75%.

The Google Impact Challenge committed \$20 million in Google.org grants behind not-for-profit companies using emerging technologies to increase independence for people living with disabilities. ProPortion will use the Google.org grant to boost LegBank's efforts in the development of the Majicast. This will involve the validation of the device within clinical settings in the Netherlands, at Orthopedic Centre de Hoogstraat in Utrecht, and in the Colombian cities of Bogotá and Medellín.

To bring this innovative solution into the market, ProPortion has developed a business model that will enable it to reach both urban and rural amputees, in close collaboration with local partners. These include established orthopaedic laboratories in major urban centers in Colombia, enhancing the quality of their product with the use of the Majicast and enabling the service to become self-sustaining.

Funds will also be deployed for the establishment of three orthopaedic

start-up clinics in rural Colombia, along with micro-entrepreneurs from the National Orthopaedic Education Centre in Colombia, to help an estimated 15,000 amputees with limited access to prosthetic care.

More information: www.proportionfoundation.org/legbank
googleblog.blogspot.co.uk/2016...ks-for-everyone.html

Provided by University of Strathclyde, Glasgow

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