

AT2030
Case Study

Hakim's Story: Innovative AT Provision in Refugee Settlements.

Prepared by
Humanity & Inclusion

Cluster 2
Innovation
Spark Innovation

Country
Uganda

Date
February 2021



Funded by



Led by



In partnership with





Impact Stories

About AT2030

AT2030 tests ‘what works’ to improve access to life-changing Assistive Technology (AT) for all; investing £20m over 5 years to support solutions to scale. Led by Global Disability Innovation Hub and funded by UK aid, AT2030 will reach 9 million directly and 6 million more indirectly, driving a lifetime of potential. AT2030 is operational in 31 countries globally.

About Humanity & Inclusion

Humanity & Inclusion (HI) is an independent charity working in situations of poverty and exclusion, conflict and disaster. We work tirelessly alongside people with disabilities and vulnerable people to help meet their basic needs,

improve their living conditions and promote respect for their dignity and fundamental rights.

In Uganda, HI operates in 13 districts and 8 refugee settlements. HI in Uganda is implementing a range of projects including functional rehabilitation, mental health and psycho-social support, inclusive health, inclusive education and livelihoods targeting refugee populations and Uganda communities. HI works in the Omugo refugee settlement in Arua District to deliver orthosis to refugees with disability with the 3D Printing through Emergency Tele Rehabilitation Access (3D PETRA) project.

HI was awarded a European Innovation Council Horizon Prize of one million euros in September 2020 for our ground-breaking work using technology and telemedicine for physical rehabilitation.





Transforming Lives through Innovative AT

Life in a refugee settlement can be so difficult and challenging. You can imagine how it is like to trek so many kilometres fleeing a conflict from your home country. You can also now imagine the challenges Persons with Disabilities go through 365 days a year. This is twice the suffering experienced by other people, in terms of accessing services, information, the discrimination that comes from being different. With the advent of the global pandemic, the impact been even devastating. Amidst these challenges, Persons Living with Disabilities in refugee settlements have not been left behind. With the innovative technologies and rehabilitation services offered by Humanity & Inclusion, so many lives of Persons Living with Disabilities have been greatly transformed.

Hakim's Story

Hakim is a 30-year-old male refugee from South Sudan staying in one of the 6 villages that make up Omugo Refugee settlement, the 7th zone in Rhino Camp. AT2030 partner Humanity & Inclusion (HI) has been working with persons with disabilities (PwD) like Hakim since 2018.

Hakim was identified in 2019 by one of the Community Based Volunteers. He was assessed by the physiotherapist and psychosocial worker who identified his needs and the hardships he was facing.

Hakim got a stroke that paralysed his right side of his body including his upper and lower limbs. This happened after he suffered severe malaria when he was in his teens. Because of inadequate medical management and no available rehabilitation services back in his home country, he was left with severe impairments that made his walking, self-care so difficult.



Hakim, a 30-year-old South Sudanese refugee, living in Village 5, Omugo refugee settlement, Arua District, Uganda.

By the time the HI team met him, he had given up on life. “I do not think this life is worth living. I am better off dead”, Hakim cried out in an interview with a psychosocial worker. ‘With these impairments, I cannot take care of myself, I cannot bathe, I cannot participate in meetings, I cannot move around easily to visit friends. I am always at home. People in the communities call me all sorts of names,” he added. His caregivers equally had similar challenges in terms of taking care of Hakim. “Hakim is heavy; it is difficult to carry him whenever he needs to go out. I cannot manage to carry him,” his mother reported to the team. “I am in my 80’s but I have to ensure that I feed him, bathe him, dress him. This is very energy-consuming for me. I wish I could find a way out of this situation and Hakim’s situation improves,” Hakim’s father added.

The AT2030 HI impact on his life



Figure 1 Fig. 1 Hakim undergoing mobilization exercises from the physiotherapist at his home.

With the family, HI’s Team came up with a comprehensive plan that included home visits by the physiotherapist to do exercises that would improve joint movements, transfers, strength, and general functional independence. The Psychosocial worker was to do counselling and provide psychosocial support to Hakim and his family. Continuous awareness about disability in the community and the need to

avoid stigmatization and discrimination were to be emphasized through HI quarterly community meetings with leaders and beneficiaries.

Undergoing interventions from HI's team for a period of 4 months, Hakim was able to stand and independently take a few steps. His transfers had greatly improved. Over time, he was able to independently to shower and dress. His life had transformed greatly, and he no longer had suicidal tendencies following the psychological support he underwent through.



Figure 2 Hakim after 4 months of HI intervention.

The caregiver burden reduced as Hakim was more independent.





Fig. 3 Two 3D Printers installed at HI Uganda Arua office. These are used to produce the orthoses that are later provided to beneficiaries

However, even after the physiotherapy sessions and provision of assistive mobility aid, Hakim's way of walking had not improved to enable him to walk distances past his home surrounding. But through the innovative technology that HI started implementing within the settlement under the AT230 programme and the 3D Printing through Emergency Tele Rehabilitation Access (3D PETRA) project that aimed at provision of at least 50 orthoses, improving the way people like Hakim walks. It was now possible to correct deformities of the feet and hands. It is also now possible for people with weakness in their lower limbs to have an orthosis printed at HI offices in Arua that can support them to walk better.

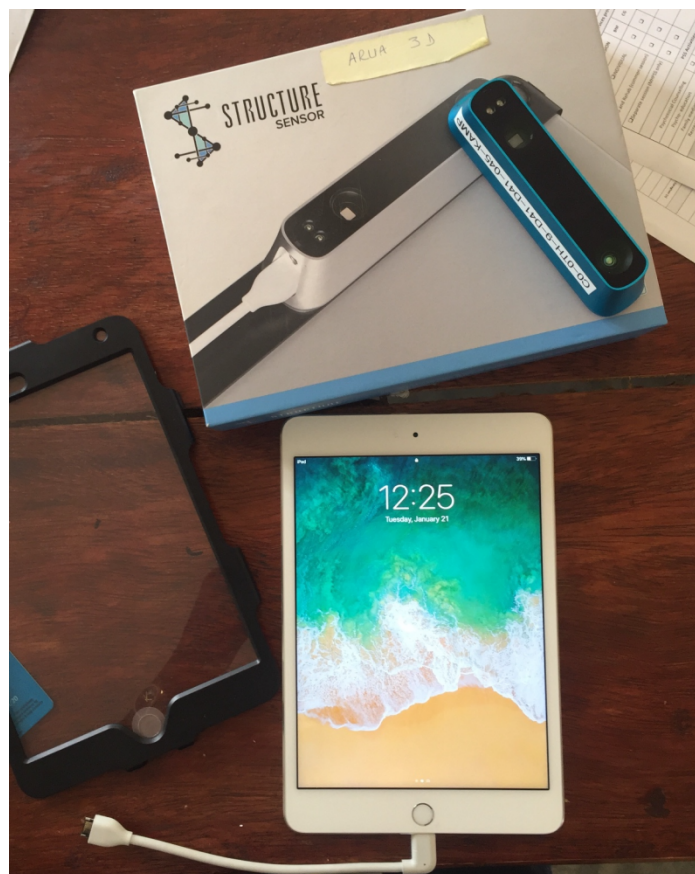




Fig.4 The iPad and structure Sensor Used to scan and capture a copy of beneficiaries' limbs that are later modified on a computer before printing.

Talking about this. Hakim was among the first beneficiaries to be assessed and qualified for the project. Because he could stand but with limitation in movement because of the weakness in his foot, the Prosthesis and Orthosis Technical Advisor recommended an orthosis that could support the foot for him to walk better. With only a structured sensor connected to an iPad, Hakim was scanned and a copy of his leg and foot were taken. The scan was modified on a computer by P&O consulted and was then printed by a 3D Technician at the Arua office.



Fig. 5 Physiotherapist assists P&O Consultant Jerome during the scanning of Hakim at HI's Omugo Rehabilitation Unit on 22nd January 2020

When the pandemic broke out, it put everything to a halt including some of HI's field activities. As the name of the project suggests, 'TELE REHAB'. while observing the set Standard Operating Procedure, 3D PETRA activities like fitting orthoses, modifications continued remotely with the P&O consultant interfacing with the field

team via online platforms like Teams and Zoom. Hakim was provided with a Dynamic Ankle Foot Orthosis (AFO). The physiotherapist had gait training sessions with Hakim and continued strengthening exercises to enable him to walk better with the orthosis.

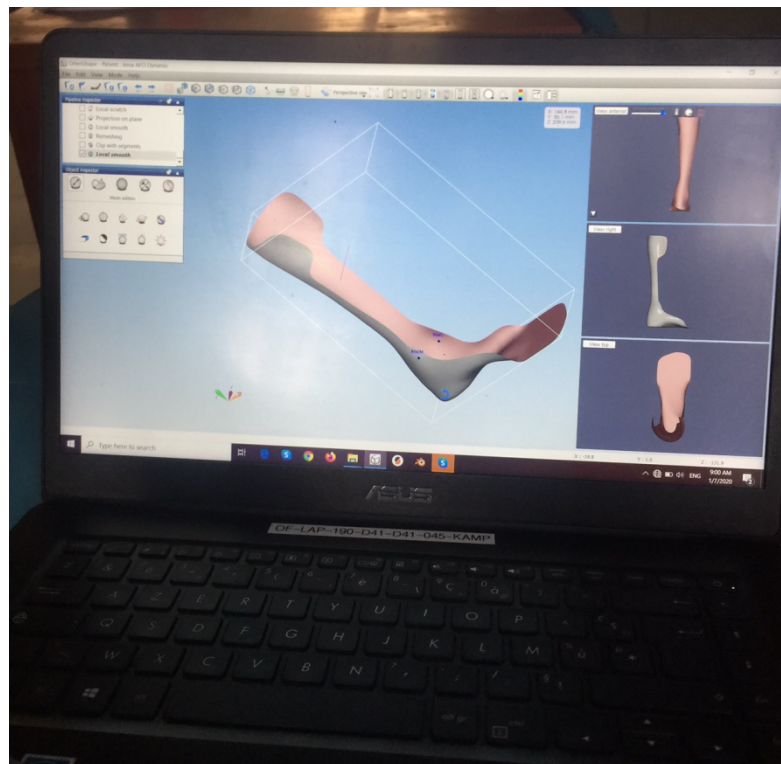


Fig. 6 A finalised computer modified scan of an Ankle Knee Orthosis ready to be printed

Amidst challenges that came with the pandemic and slowing down of the field activities, the 3D PETRA Pilot project has managed to reach over 82 beneficiaries identified and evaluated, 57 scans taken and printed. 34 devices delivered, fitted on 29 beneficiaries. With the determination put in by field and support staff in reaching out to persons living with disabilities, Humanity & Inclusion's impact has been greatly felt in the refugee settlements around Northern Uganda. The innovative technology



implemented by HI goes a long way in making people achieve more than they could have imagined. It is a game-changer. Who knew such technology would be implemented in remote and low resourced communities like refugee settlements. That is the innovative character of Humanity & Inclusion.



Fig. 7 Amidst the lockdown, the P&O consultant continued supporting the field team remotely via online channels like TEAMS and ZOOM

Currently, Hakim lives happily with each day promising a better life for him. He is now able to walk around the village to interact with friends. When sick, he can walk by himself to the hospital. He is now able to fully participate in community meetings. ‘My life has greatly changed ever since HI started working with me’ Hakim on his closing remarks when the team last visited him. ‘I never knew I could walk independently for more than a kilometre. The orthosis you provided me has greatly improved my walking. Thank you so much HI. May God bless you such that you can extend this kind of support to other people.’ he added.



Fig 8 3D Technician Disan putting final finishing onto printed orthosis at Omugo Rehabilitation Unit



Initial fitting for the orthosis



Fig.9 Hakim undergoing gait training at HI's Omugo Rehabilitation Unit on 28th September 2020 after successfully fitting his Orthosis