



Global Disability Innovation Hub at 10

2016 - 2026: A decade of impact and a vision for the future.



Global
Disability
Innovation
Hub





Founders message

Global Disability Innovation Hub (GDI Hub) launched on the eve of the 2016 Rio Paralympic Games when disability innovation was an emerging concept. Back then, data and evidence on the methods and mechanisms that work were widely non-existent, and assistive technology (AT) hadn't reached the global agenda.

We saw a spark.

New technologies to support inclusion were emerging day by day. Researchers were pushing boundaries across accessible transport and inclusive design. London's 2012 Paralympic Games had shifted the public zeitgeist. Advocates found themselves with a bigger platform than before. But somehow - though we searched - we couldn't find quite the right determined leadership that combined the deep knowledge, community leadership and innovative approaches we'd developed for the Games.

So, we decided to grow the leaders we were searching for and GDI Hub was born. By bringing together expertise from London 2012 and its communities, alongside deep knowledge and expertise from prestigious academic and cultural institutions across London, we could build new collaborations and ambitious ideas.

GDI Hub had a vision to disrupt the old approaches to disability and the exclusion found in the tech and innovation sectors. It was founded on the principle that lived experience (ergo: disabled people and our communities) must be at the centre of all that we do. But that was not enough - we also wanted to harness the power of innovative methods and new technology to "change the world a little bit". We wanted to birth a movement not a company and Disability Innovation is what we called it.

We can hardly believe that we now celebrate 10 years of disability innovation. In this time our start-up / upstart GDI Hub has reached over 77 million people in 50+ countries, establishing over 200 partnerships along the way. We have built a diverse interdisciplinary team, all based at University College London (UCL) but with the support of our other founding partners including Loughborough University London, UAL's London College of Fashion and London Legacy Development Corporation (LLDC). What unites us is a commitment for disability inclusion and disability justice, with disabled people at the heart of all that we do as leaders, colleagues, collaborators and co-designers.

Our proudest moments have included delivering our flagship AT2030 programme, funded by UK International Development, which tests and scales affordable assistive technology in low- and middle- income countries. The launch of our MSc in Disability, Design and Innovation co delivered with our founding partners that is training the next generation of leaders. Being recognised as the first WHO Global Collaborating Centre on Assistive Technology and co-creating the Global Report on AT with WHO, UNICEF and ATscale. The launch of the Centre for Digital Language Inclusion (CDLI), which uses artificial intelligence and voice technology to support people with non-standard speech and has been supported by Google.org. Seeing our PhD students grow into independent and internationally recognised researchers and the hundreds of innovators and innovations we've supported to grow along the way.

None of this would have been possible without our amazing team. We've grown from our co-founders and initial supporters to a 50+ team across our Community Interest Company and Academic Research Centre in UCL. All that we have achieved has been made possible by the wonderful and diverse global partnerships. We are proud of the diversity, the talent and the commitment of our people and partnerships - without them GDI Hub simply wouldn't exist.

Ten years have taught us a lot. To celebrate our impact, to reflect on our failures as well as our successes, and to look to the future - there is so much still to do! This work has never been more pressing or urgent, as we live through the dramatic pinch point of a changing socio-political environment, a new economic reality and the rapid advancement of technology, which has the potential to accelerate inequalities if not well managed. But with all change comes opportunity, and we must continue to adapt, adjust and evolve to accelerate disability innovation for disabled people, and all people.

**Iain McKinnon, Professor Victoria Austin,
Professor Catherine Holloway
Co-Founders, GDI Hub CIC**

The why

Globally there are 1.3 billion disabled people, with 80% living in low- and middle-income countries (LMICs). In high income countries loneliness, anxiety, depression and neurodiversity are rising, and systems are unable to cope. Disabled people are one of the world's largest equity-denied groups facing structural and systemic barriers and everyday exclusion. We believe a better world is possible, and we aim to harness the people, the methods and the products necessary to change the status quo. **Chronically underfunded, extensively under evidenced and outside of mainstream, disability innovation lagged significantly behind other inclusion and development agendas.** We believe that disability innovation is more than a product, service or a policy. It is a way of thinking to shift agendas towards a fairer future. And by applying a multidisciplinary lens, there remains a huge opportunity to drive change.



GDI Hub at a glance

Our mission is to accelerate ideas into impact for a more just world - for disabled people, and all people.

Our vision is for disability inclusion and social justice. We work towards a world without barriers to participation, where everyone has the opportunity to live a joyful life.

Disability Innovation is a movement that places disabled people at the heart of the process to address chronic issues of inequality through research, design and advocacy.

About us

- Research and practice centre - based at University College London (UCL)
- Dual organisational structure - Academic Research Centre and a non-profit Community Interest Company (CIC) - enabling rapid translation of research into practice.
- World Health Organisation's (WHO) first Collaborating Centre on Assistive Technology
- Founded on academic excellence and global leadership in inclusive innovation
- We work across: research, international development and consultancy
- We deliver: new knowledge, ideas, innovation acceleration, market and capacity building, teaching and learning, talent networks and advocacy
- Areas of expertise include: Assistive Technology, Artificial Intelligence (AI), Human Computer Interaction (HCI), Climate Resilience, Gender, Inclusive Cities and Design, Local Production, Economic Inclusion, Social Justice, Trauma, Organisations of Persons with Disabilities (OPDs).
- Founding partners: University College London (UCL), London Legacy Development Corporation, Queen Elizabeth Olympic Park, Loughborough University London, University of the Arts London - London College of Fashion, Sadler's Wells, V&A, The Helen Hamlyn Centre for Design at the RCA, Leonard Cheshire. This list includes expertise that delivered the London 2012 Paralympic Games and the institutions that chose to make the Queen Elizabeth Olympic Park in Stratford their home.

Disabled People vs Persons with Disabilities

We use the term ‘Disabled People’ in this report. As a UK based organisation, this is the preferred language within the context in which we were founded and are based. As we share our global programmes, we increasingly use the term ‘Persons with Disabilities’ as this is the UN language favoured in these geographies. We always take guidance from our local partners and OPD collaborators on use of language and recognise that contradictions can arise between national preferences and global perspectives.



A decade of partnerships

Our vast network of diverse cross-sector partners in the public, private, and third sector has enabled us to bring disability inclusion and innovation to new sectors, spaces and audiences while offering opportunities for joint learning, training, capacity building, research and knowledge exchange.

Our ecosystems of funders, researchers and partners supports organisations and individuals to create inclusive solutions and accessible environments worldwide. Our partnerships include:

- **Foreign, Commonwealth and Development Office (FCDO), UK Government**
- **Asian Development Bank (ADB)**
- **Google.org**
- **World Health Organization**
- **Hogan Lovells Cadwalader**
- **Clinton Health Access Initiative (CHAI)**
- **UNICEF**
- **UN-Habitat**
- **The Norwegian Agency for Development Cooperation (Norad)**
- **World Bank**
- **Cabinet Office, UK Government**
- **International Paralympic Committee (IPC)**
- **Royal Academy of Engineering**
- **European Space Agency (ESA)**
- **BT Group (formerly British Telecom)**
- **European Bank for Reconstruction and Development (EBRD)**
- **Climate Investment Funds**
- **European Commission Horizon 2020**
- **Expo City Dubai**
- **PACT - a global NGO**
- **Snowdon Trust**
- **UNFPA**
- **Private Infrastructure Development Group (PIDG)**
- **Loughborough University**
- **University of the Arts London**
- **Strathclyde University**
- **Maynooth University**
- **Motivation**
- **London School of Hygiene & Tropical Medicine (LSHTM)**
- **GSMA**
- **Strathmore University**
- **Senses Hub**
- **Kilimanjaro Blind Trust Africa**
- **World Blind Union**
- **Global Disability Fund (GDS)**
- **Shujaaz Inc.**
- **Assistive Technologies for Disability Trust (AT4D)**
- **British Council**
- **International Disability Alliance (IDA)**
- **Kota Kita**
- **Kounkuey Design Initiative**
- **AMREF**
- **ATscale**
- **Carbon Trust**
- **Brink**

*This list is not exhaustive and we have been privileged to work with over 200 partners over the last 10 years

10 years of impact

14
million
people

directly reached with
improved access to
assistive technology*

80
million
people

indirectly reached by
our work and
programmes *

200+
ventures

supported, from
direct investment to
personal mentoring

Projects in
70+
counties

117
peer-reviewed
publications and
reports

165
graduates

through our
leading Disability, Design
and Innovation MSc

£120
Million

raised for research and
programme portfolio

140
influencing
papers

through our AT2030
programme alone

200+
Partnerships

10 years of impact

2016

Consolidated the Paralympic legacy from London 2012 and launched GDI hub at the Rio 2016 Paralympics

2017

Hosted the inaugural Disability Innovation Summit on Queen Elizabeth Olympic Park's new innovation zone - with over 80 speakers and 300 delegates from all sectors and all corners of the world

2018

Launched the MSc Disability, Design and Innovation led by UCL alongside Loughborough University London and UAL's London College of Fashion. This partnership brings emerging talent into the sector. The MSc was the first of its kind in the world and was the first teaching collaboration between the partners of 'East Bank' as a legacy from London 2012.

2018

Scoped and were awarded UK International Development's largest ever Assistive Technology research programme - AT2030 - to test 'what works' to improve access to life-changing Assistive Technology (AT) for all. We've spent the last 8 years delivering change with 66 million people reached indirectly and 11 million directly.

2019

Established Africa's first AT accelerator, 'Innovate Now' in Kenya and have since supported its transition to sustainable leadership by local partners. This began our work on what was to become on GDI Accelerate - our innovation arm.



2020

Amplified exceptional disabled talent with the establishment and delivery of the Disabled Leaders Network. A highly active and impactful network of pioneering disabled voices funded and co-hosted by the Snowdon Trust.

2021

Co-sponsored the WHO/UNICEF Global Report on Assistive Technology and became the WHO's first Global Collaborating Centre on AT during the COVID-19 Pandemic.

Giving more credence to our partnership and collaboration at a time of Global Health Crisis. We contributed over 150 publications to the Global Report on AT.

2021

Tested stage 2 of GDI Accelerate with an Assistive Tech Impact Fund to invest and scale AT solutions, in partnership with Brink. We also became a founding partner of the IPC's #WeThe15 Movement which reached 6.2 billion people during the Tokyo Paralympics.

2023

Our AT2030 programme, funded by UK International Development was increased to bring the programme total to £51.8m in 2023, which is set to be match funded.

2024

Launched our Global Action Report on delivering inclusive design in cities at the World Urban Forum in Cairo, the culmination of 4 years of research across 6 global cities. Our inclusive cities work has evolved to incorporate strategic partnerships with clients like Asian Development Bank (ADB) and a parallel focus on climate resilience.

2025

Launched our Centre for Digital Language Inclusion (CDLI) to democratise access to Automated Speech Recognition (ASR) technology for those with slurred or hard to understand speech. By building open-source data sets and innovation pathways, we enable inclusive AI-led solutions in local languages.

2026

United Nations General Assembly adopts the first UN resolution on 'Access to Assistive Technology' - the culmination of 10-years of work from across the disability innovation sector - marking a significant milestone in the global effort for inclusion, access and opportunity for all.





Our unique approach to disability innovation

We started as most innovators do with a test case of what works (with evidence from London 2012). This taught us fundamentally that disability inclusion works when community leadership is backed by political will and innovative measurable methods (Austin 2021). We also had a hunch we could transfer that to other projects. While the model has evolved and developed over time, what has remained constant is that all of our best work is built on the principles of disruptive leadership, combining research excellence with agile delivery; and harnessing the power of technology for justice.



Community Leadership within disruptive partnerships

“Nothing about us without us” is the slogan of the disability movement. But it is not just a ‘nice to have’. Our evidence since 2012 suggests that the best solutions can only be designed with the expertise of the people most affected by the problem. Local leadership is vital too. Because being an active, university-educated wheelchair user in London does not teach you that much about being an older slum-dweller needing a hearing aid in rural Ghana. We work within communities, advocating and amplifying the voice of local expertise and lived experience to democratise design. But that’s not enough alone. We convene disruptive partnerships to open up access to commercial and institutional partners and global decision makers, as this is where change happens. It’s when very different sectors, groups and hierarchies work together that overcoming implementation barriers to drive towards real-world, sustainable change is possible. By taking risks and trying new things together, we can test and evolve new ways of doing things.

Research excellence with agile delivery

We continuously look for the gaps, or ‘cracks’, where new opportunities can emerge. But discerning which to bet on, is only possible because of our deep knowledge and foundational academic rigor. Being based at UCL, one of the best Universities in the world, we have access to more than 14,000 staff and 60,000 brilliant students with comprehensive expertise across 11 faculties. We apply academic excellence to understand the complexity and breadth of global disability challenges alongside critical thinking, to build, develop and evaluate interventions rooted in evidence. But this isn’t unique. What we try to do differently is marry deep technical understanding with the ability to deliver in an agile way more reminiscent of the innovation sector. Like we teach our students, there is value taking risks and moving into difficult spaces and places that others can’t or don’t want to. By establishing our non-profit business we have been able to operationalise huge multi-country projects quickly and to pivot and adapt regularly and more efficiently than most. It is a constant tension: fast or deep? But we would not get to the solutions we’ve found, without the ability to do both.

Harnessing innovation and new technology for justice

A key part of our model is harnessing the opportunities that new technology brings. Especially in an age of AI we are moving into a space where technology mediates our everyday interactions almost all of the time. This brings great opportunity - especially in the AT space. But we are not uncritical tech optimists. Technology and new ideas must be ‘for’ something. And for us that is justice, for disabled people and all people. We are also acutely aware that without positive action, technological advances can widen the equality gap rather than close it. Our research and in particular our partnerships with technology multinationals addresses these issues, working to ensure new technologies are developed inclusively from the beginning.

What we've learnt along the way

Our biggest strength is our biggest challenge - our unique structure as an Academic Research Centre and non-profit Community Interest Company

GDI Hub was founded on the principles that 'we can do hard things' with an emphasis on 'how we do things matters'. Our operational structure speaks precisely to this. We are made up of two separate entities, enabling us to bring academic rigour, while delivering large complex global programmes in an agile way. There is a healthy tension between our Academic Research Centre (UCL led with an academic focus) and our Community Interest Company (non-profit, private company).

While the value is evident, alignment is not always straightforward. Different team structures, different success measurements and different work cultures requires flexible leadership. By bridging academic excellence with ambitious programme delivery, we can implement a different type of change in the world. We choose to sit in the hard spaces. We know it matters. Silos arise despite best efforts. Mutual respect is a cornerstone. But with challenge comes opportunity and being disruptive while remaining grounded enables new ideas and original thinking to thrive.

Sometimes our ambition has outstripped the political and economic reality, but something always pops out of it

Our \$100 million AT growth fund was perhaps ahead of its time, or perhaps just badly timed as the world shifted on its development axis in 2024/5. But what it ignited was a vision for a different type of investment.

We haven't always got it right. A good idea can only work when conditions allow. In the case of the AT Growth Fund (ATGF) our research identified that private investment could revolutionise AT venture's ability to scale. The products were ready, anchor funding was in place and interest into capital investment was high. And then the world changed. The economic and geopolitical climate shifted. A change in administration in the USA, and protracted global crises, resulted in a policy shift so significant that USAID vanished almost overnight. Diversity, Equity and Inclusion (DE&I) initiatives were de-prioritised or scrapped altogether, and unpredictability hit global markets. Development spending shrunk around the world.

For our AT Growth Fund this meant that investors on the cusp stalled. ATGF was always ambitious, it had never been achieved before. It didn't raise despite a lot of good people trying hard and we had to call it quits. But what we have since seen is that once a door is open others walk into the space. OPDs and UN institutions are now testing smaller funds targeted at private capital. We ourselves are evolving new partnerships with diversified funding streams to provide capital investment for businesses ready to take the next step on a regional and slightly smaller scale. Our learning is fuelling what comes next, for ourselves and others.

Ecosystem development vs product development?

Our talented team of researchers and practitioners sit at the forefront of disability innovation, and yet our own innovations have taken a backseat. As we focus on the delivery of ambitious global programmes while simultaneously testing and trialling new ideas, our ability to scale our own technologies, mechanisms or concepts is hampered. Is it possible to do both?

We know that building a successful product or venture takes time, singular focus and a founder with an unbreakable vision. Can this environment be created within a larger organisation and amongst a host of competing priorities? We haven't yet found the solution.

Partnerships are beautiful and messy

We've worked with more than 200 partnerships in the last 10-years, and not all of them go to plan. We've come to learn that's ok. What's important is to understand why and learn from it. We have a culture of being open and honest, which includes when something isn't working. Hard decisions are hard to make and hard to follow through, but we always try to be led by what we honestly feel is the best option at the time with the information at hand. That has meant ending or leaving some partnerships. It also means sticking with messy ones when they are getting somewhere even if it's hard. We've come to find that when we stick in the mud together something beautiful emerges.



2016-2026: Stories from a decade of disability innovation

Teaching and learning: shaping the pioneers of the future

Cultivating a strong pipeline of diverse talent is essential for the disability sector. We teach, incubate and collaborate with national and international academic institutions, supporting students from across the world.



Disability, Design and Development MSc at UCL

In 2018 we launched a new Master’s programme to equip future leaders with the skills required to design and implement inclusive systems, services and technologies. This was the first Master’s of its kind, co-delivered by UCL, UAL’s London College of Fashion and Loughborough University London. To date 165 MSc students have graduated, providing a pipeline of talent into the disability innovation sector. Over the last seven years, our alumni have published 20+ peer review papers, progressed on to PhD’s, into employment or entrepreneurship in disability innovation. Many of our MSc alumni are now active in the disability space including roles such as: Manager of Accessibility at a Museum of Science in the USA; Inclusive Design Consultant for Architecture Projects across the UK; Founder of an Inclusive Design Consultancy across Asia; Physical Accessibility Lead at a major UK retailer; User-Experience Designer on mobile apps in China; Tech Analyst to improve access to AT in Singapore.

“The MSc was a turning point in my career. It helped me turn my lived experience of disability into research and practical solutions. After graduating, REPOA selected me to write a paper on mobile phones as assistive technology during COVID-19. I later served on Tanzania’s National Advisory Council for Persons with Disabilities from 2022 to 2025. These experiences led me back to Loughborough University, where I am now completing a PhD focused on improving physical and digital accessibility for people with disabilities in Tanzania.”

Msafiri (2020 graduate)

Kavya Mukhija (cohort 2024/2025) won the Diana award for disability rights advocacy in 2024. The award recognises exceptional young people who have demonstrated their ability to inspire and mobilise new generations to serve their communities and create long-lasting change on a global scale.

Kate Mattick (cohort 2019/2020) launched a community interest company from her MSc inclusive design project “Chat-e-Cycle”. Chat-e-Cycle is a side-by-side tandem providing accessible journeys to older adults and disabled people living in rural Somerset, UK. Co-designed in 2020, Chat-e-Cycle won the Royal Society of Arts (RSA) Student Design Award and has since secured funding from the local council and the National Lottery.



PhD's at GDI Hub - generating new evidence

In ten years, many PhD's have been successfully completed at GDI Hub's Academic Research Centre, based within UCL's Computer Science Department where we conduct research at the intersection of technology and disability. Research has included: Wheelchair Comfort, Trauma-Focused Assistive Technologies, Mapping and Evidencing Disabled People's Organisations, Brain-computer Interface (BCI), AI and Sensory Disorders, Wearable Sensors and High-resolution Interactive Pin Displays, Contactless Physiological Monitoring and Interventions to improve Disability Interaction.



“

We have been proud to work alongside the team to develop and grow the Disabled Leaders Network, a global community that brings together emerging and established disabled leaders to connect, learn, collaborate and create change.

Disabled Leaders Network - amplifying disabled talent through community, capacity building and connection



Funded and co-delivered alongside the Snowdon Trust, the member-led Disabled Leaders Network champions exceptional emerging and established disabled talent by creating opportunities for learning, collaboration and collective action in a member-led ecosystem. We shape and advocate for inclusion, while empowering disabled-led change - hosting public events, developing resources and advocating at the highest level. The network - inclusive of disabled students, graduates, early career and established professionals - creates peer-to-peer safe spaces and learning opportunities. By building capacity among talented disabled voices, the Disabled Leaders Network provides a safe community of peers and a collective advocacy voice for change.

What began as an ambitious idea has evolved into a thriving global network that enables disabled leaders to build connections, share expertise, support one another and amplify their collective impact. The scale, reach and pace of that growth has exceeded all our original expectations and demonstrates the appetite for a space where disabled leaders can come together as peers.

The success of the Network demonstrates the power of our partnership. The Snowdon Trust brought a long-standing commitment to supporting disabled leaders, alongside the vision, convening power and investment needed to create opportunities for disabled leaders. GDI Hub brought deep expertise, innovation, global reach and an ability to turn ideas into impactful, member-led programmes. Together, we have created something that neither organisation would likely have achieved alone: a thriving, member-led community that is helping disabled leaders support one another, shape conversations and influence change across sectors and borders. We are proud of what we have achieved together and look forward to seeing the impact GDI Hub continues to have over the next decade.

”

Snowdon Trust

Accelerating AT ecosystems: supporting innovations from idea to adoption

Our innovation arm GDI Accelerate builds resilient ecosystems. From breakthrough technologies to scaling proven solutions we strengthen local expertise, establish lasting infrastructure and provide deep knowledge to bring and scale products to market. We've delivered accelerators globally, providing technical support and business development to support start-ups to expand within existing markets, or enter new ones. Alongside venture development we lead and collaborate across research, evidence generation and partnerships.

We test different approaches and take risks where others haven't to lay the foundations and build the architecture that enables AT innovators and ventures to succeed. We work in partnership with governments, communities, researchers and industry to develop end-to-end pathways to get AT to the people that need it most. This has included accelerators alongside International Committee of the Red Cross, the Royal Academy of Engineering and the British Government.

The Kenyan innovation ecosystem - launching Africa's first assistive technology accelerator

Ten years ago AT innovation ecosystems in Kenya, and Africa more widely, were non-existent. Our UK International Development funded AT2030 programme has worked to change this, launching Africa's first assistive technology accelerator in Nairobi, 'Innovate Now' - alongside a consortium of local Kenyan partners. Today Innovate Now equips AT startups with the knowledge, tools, and resources needed to design, launch, and scale inclusive solutions. Innovate Now has supported 10 innovator cohorts, 90 ventures and 100 entrepreneurs across 11 countries in Africa.

Today Nairobi has a vibrant AT ecosystem. Many of the ventures we've supported have scaled projects, delivered change and evolved into thriving businesses. Kilimanjaro

Blind Trust Africa (KBTA) has led delivery, and more recently Assistive Technology For Disabilities Trust (AT4D) has been founded as a legacy organisation, transitioning the expertise and delivery of Innovate Now into a local disabled-led trust.



A ventures journey - from AT solutions to powering a movement: Hope Tech Plus

Brian Mwenda, based in Nairobi, founded Hope Tech Plus Limited with a flagship product "the Fourth Eye" which warns the user of potential obstacles through haptic feedback. Having sold 1000 products, Brian joined Innovate Now to validate the Fourth Eye and redesign it into a wearable device. In 2021 Brian was able to on-board an international product development team and has secured more than USD 1 million in investment, becoming one of the most highly capitalised AT ventures to emerge from the

African startup ecosystem. Brian continues to evolve the product, has expanded to Europe and in 2023 founded Senses Hub in Nairobi - a community focused space for assistive technology innovation and research, where people with disabilities lead the co-design to develop technology for the continent. Brian has now raised millions, grown an extensive team, and is now a delivery partner for many GDI Hub programmes in the region.



Local production and service development case study: Nepal

In Nepal we have grown a network of local and international collaborators, to create pathways for personalised prosthetic provision, strengthened wheelchair services, and fostered community-led innovation that bridges global knowledge with local manufacturing, repair, and rehabilitation capacity. We have built the systems, partnerships, and expertise needed to ensure that technology reaches the people who need it and can be sustained throughout their lives.

A key component of this work has been the development of locally produced personalised prosthetics. Working alongside Zener Technologies, the Enabling Fridays Community, UNICEF Nepal, the Centre for Disabled Children Assistance (CDCA), rehabilitation professionals, and prosthesis users, we have established digital prosthetics laboratories, trained local prosthetists and orthotists in digital workflows, and demonstrated how personalised devices can be designed, manufactured, fitted, and maintained within Nepal.

We've delivered 75 prosthetics to 67 users through locally led production that reduces reliance on imported solutions while building long-term technical capacity within local health systems.

By combining 3D scanning, digital modelling, additive manufacturing, and continuous user feedback, prosthetic devices can be rapidly customised and refined to meet changing individual needs across fit, comfort,

functionality, weight, and appearance. This approach shortens production times, reduces costs, and enables local clinicians and manufacturers to work together in delivering high-quality, affordable, and personalised assistive technology. Beyond device provision, the programme has also developed local knowledge capital, strengthened rehabilitation pathways, and created the foundations for lifelong access to assistive technology through local manufacture, maintenance, and follow-up support.



Man Kumari digitally modelled prosthetic, an 11 year old's journey

Man Kumari lost her right leg at age five, and for years was carried by her mum to and from school. In 2024 Man was provided with a new, 3D printed, custom made prosthesis as part of our AT2030 programme and UNICEF Nepal, alongside the Centre for Disabled Children Assistance and the Enabling Fridays Consortium. Man's limb was scanned and digitally modelled using 3D technology, then fabricated using polypropylene filament. The prosthesis was assembled and fitted, followed by gait training to ensure proper posture and mobility. "I like my foot," she beamed during her follow-up visit. "This one is more comfortable, lighter, and feels better than the other one." The previous prosthesis - provided by a local NGO three years ago - had become tight and painful as she grew.



Wheelchair analysis and the development of repair hubs

We developed a comprehensive situational analysis of wheelchair provision across Nepal, examining user needs, rehabilitation pathways, workforce capacity, repair systems, and service delivery challenges. The research identified barriers including a dependence on imported wheelchairs, shortages of spare parts, inconsistent maintenance and repair practices, and gaps in technical training and certification. In response, we collaborated

with local partners to deliver Basic Wheelchair Service Provision training and practical repair workshops, supporting the development of a more sustainable repair and maintenance network. By building local capacity, we are able to improve access to quality wheelchair services and ensure that users can access timely repairs and support throughout the life of their wheelchair.

Advancing Inclusive and Climate Resilient Cities and Communities

Cities worldwide are experiencing continued growth and increasing resource challenges, particularly in low- and middle- income countries. With resource constraints and growing global challenges including rising inequality, climate change, pandemics and conflict, it is even more critical that accessibility and inclusive design are seamlessly integrated into the planning and design of cities and all their functions. Over the past 10 years we've built knowledge capital, expertise and partnerships to advance inclusive and climate resilient cities and communities at the global level.

Our holistic approach to Inclusive Cities

We recognise that disability innovation and equality is about more than Assistive Technology. It's about people's experience of daily life. Cities provide a comparable space to ground research and test where innovation meets systemic change from policy to planning to infrastructure design and management.

Between 2020-24 we developed new insights from six cities around the world exploring why inclusive environments and infrastructure are necessary to enable access to and use of AT. We used participatory research methods with local partners engaging local persons with disabilities and urban stakeholders

in co-design activities to identify barriers, opportunities and aspirations for a more inclusive city. We produced six city case study reports culminating in our Global Action Report launched at the 2024 World Urban Forum.

We also regularly work with clients and partners to operationalise inclusive design in development projects. We supported Expo City Dubai to integrate inclusive design in their development plans and have a long-standing relationship with the Asian Development Bank (ADB) to provide inclusive design training and advice on ADB funded infrastructure projects.

Global advocacy for inclusive cities through the Accessibility 2030 pavilion at the World Urban Forum

In 2024, we helped convene a team to launch the first ever Accessibility pavilion at UN Habitat's World Urban Forum (WUF) in Cairo, Egypt. Alongside World Blind Union, International Disability Alliance, Federal Ministry for Economic Cooperation and Development (BMZ) and other supporting partners, the Accessibility 2030 pavilion was an interactive space highlighting the importance of inclusive design and accessibility on our cities. Displaying case studies, hosting informal sessions and acting as a meeting point, it marked the first time there was a dedicated space for disability inclusion at the event. The Pavilion success was demonstrated by UN-Habitat and the Government of Azerbaijan agreeing to sponsor the Accessibility 2030 pavilion for the following WUF in Baku, Azerbaijan, in 2026.



Climate Resilience, and the impact of Climate Change persons with disabilities

Our unique global research on inclusive cities identified the impact of climate change on persons with disabilities living in cities and informal settlements, and the importance of design as a tool to mitigate this. Our data revealed important information about the intersection of inclusive cities and climate change, including how changing weather patterns and increasing climate-related natural disasters are negatively impacting accessibility. We have convened collaborative research exploring the intersection of assistive technology, infrastructure, disability and climate change, through UCL's Grand Challenges on the Climate Crisis, bringing together academics, practitioners and civil society to explore evidence gaps and opportunities for co-design.

We also convened the first side event on disability to be held at the UN Climate Change Conference (COP26) in Glasgow in 2021 and have participated in subsequent COPs, keeping disability inclusion and the role of inclusive design on the climate agenda.



“

Kota Kita's collaboration began with an assistive technology initiative in Indonesia, which broadened our understanding of disability and the role of informal urban spaces in supporting accessibility. Through the project, we gained a deeper understanding of the critical role that informal assistive technology providers play within the broader ecosystem of access to assistive devices, particularly in reaching communities that are often underserved by formal systems. This initial collaboration paved the way for several subsequent partnerships. Together, these collaborative projects have enriched our knowledge of assistive technologies and inclusive design, created meaningful learning experiences for our team, and connected us with a global network of experts working to advance accessibility and equitable urban development.

Working with GDI Hub has strongly influenced our approach to understanding disability inclusion through the lens of the built environment and inclusive design. GDI Hub has helped Kota Kita move from talking about inclusion to practicing it. Through meaningful and mutual collaboration, we have adopted new participatory approaches, strengthened relationships with disability communities, and created opportunities for their voices to influence urban development. We are proud that this partnership continues to inspire more inclusive and equitable cities in Indonesia.

”

Ahmad Rifai, Executive Director of Kota Kita

Supporting inclusive, greener futures

Through our involvement in the UK International Development funded Transforming Energy Access (TEA) programme to deliver the Disability Support Service, we have supported over 100 energy sector partners, formed an inclusive energy innovation network of over 130 members, delivered 10 technical assistance projects, supported 8 innovation partnerships between disability and clean energy innovators and produced new knowledge products.

We've also addressed the gap in inclusive and sustainable design by producing a playbook on inclusive climate infrastructure design, drawing on practitioner insights through co-design workshops, under the AT2030 programme. In collaboration with CBM Global we've produced a knowledge product to support key entry points in climate finance, targeted at operationalising disability inclusion in climate infrastructure development.



“

GDI Hub has been an invaluable partner in advancing disability-inclusive climate action. Together, we have combined research, innovation and practical experience to create resources that help climate actors move from commitment to action. This collaboration has strengthened the evidence base for inclusion, fostered new partnerships, and contributed to a growing movement to ensure persons with disabilities are recognised as active participants in building a more just and climate-resilient future.

”

CBM Global

Digital technologies and emerging solutions

Mobile devices, and free-to-access apps, have the power to change persons with disabilities' lives globally. In collaboration with disability communities and partners, we've developed groundbreaking evidence on how mobile devices can bridge the AT disability access gap to support independence, learning, communication, and inclusion for all.

We know the potential of mobile phones as an assistive technology (AT). Our insights from extensive research across in low- and middle- income countries (LMICs) in Sub-Saharan Africa, South Asia, and South America showcase the impact of mobile phones and AI-powered mobile technologies for people with sensory and speech differences. Mobile has the ability to create accessible, affordable AT that can be integrated into everyday life.

Centre for Digital Language Inclusion - harnessing the power of AI to enable automatic speech recognition (ASR) for impaired speech

Supported by Google.org our Centre for Digital Language Inclusion (CDLI) harnesses the power of AI to develop pioneering Automatic Speech Recognition (ASR) solutions for people with impaired speech around the world - democratising access for communication in local languages. Our bespoke mobile app designed for low-power devices in LMICs, provides people with impaired speech the chance to speak in the language they want, in the way they want, and with whom they want. To date, we've collected 13 languages, while also delivering open-source data sets, refining AI models, training local innovators /

users / clinicians, and delivering hackathons to bring together developers, linguists, speech therapists and users alongside community partners, academic institutions, and local technology ecosystems to develop new solutions.



Mobile / Smartphones as AT in LMICs - how our evidence is changing an industry

When specialist AT is unavailable, unaffordable, or absent, built-in mobile features can act as primary assistive technology for disabled people. Our research with over 750 people with visual and hearing disabilities in Kenya, India and Brazil has shown how mainstream smartphones can act as AT, and the system conditions that determine whether it works reliably in practice. This research is propelling change in the telecoms industry, while creating the evidence required to support smartphones as key infrastructure within national AT policies. The research, supported by ATscale and UK International Development is changing the industry and enabling phones to be recognised as assistive infrastructure.



“Working with GDI Hub has been foundational to the establishment and strategic development of ATscale. As a member of ATscale’s original forming committee in 2018, GDI Hub provided critical partnership and organizational support during the early inception phase before formal hosting arrangements were established.”

"GDI Hub’s core focus on testing "what works" has heavily reinforced ATscale's strategic identity as both an "Innovation Accelerator" and a "Knowledge Broker". By bridging world-class academic research with practical clinical and social applications, GDI Hub has demonstrated that disability innovation cannot occur in a vacuum; it must be treated as a systems-level intervention. This has influenced ATscale’s Strategic Pillar II (Strengthening Global Enablers), shifting the global focus away from distributing products to designing, testing, and proving simplified service delivery models and healthier market environments that can be sustainably scaled by national governments.”

Economic Inclusion and the Role of the Private Sector

Money informs what gets prioritised, who is empowered, and which outcomes are achieved. We approach financial and economic systems as critical landscapes to shape a fairer world for persons with disabilities, and all people.

Development Finance: Pathways to funding Organisations of Persons with Disabilities

Organisations of Persons with Disabilities (OPDs) have a vital role yet, many OPDs operate with minimal and insecure funding, undermining their ability to sustain operations and have influence. Our review of the funding environment for OPDs in low- and middle- income countries identified where financial resources originate from, how they arrive at OPDs, what stands in the way of access, and how to address these barriers. Our recommendations for funders and OPDs look to improve funding pathways, OPD participation and impact.



Partnering with banks to remove barriers to economic inclusion for people with disabilities

Disabled people experience disproportionate levels of poverty, lack equitable access to basic goods and services, and experience deep-rooted social stigmas that prevent their full participation in economic life. Two key entry points of economic inclusion are financial inclusion (e.g. access to affordable credit, savings, and insurance) and livelihoods (jobs). People with disabilities face barriers to accessing both, and the banking sector is well placed to support the removal of these barriers. We've partnered with the Asian Development Bank's Trade and Supply Chain Finance Programme (TSCFP) to provide expert

guidance and technical support to help banks accelerate their disability inclusion agendas. We've published five knowledge products and toolkits, including a Maturity Tool that helps banks assess their current position across functions and identify priority next steps. We've provided bespoke consultancy and technical assistance to eight banks supporting disability inclusive employment, products and services, developing action plans, auditing a bank's retail mobile banking app, and supporting an organisation to improve their approach to reasonable accommodation.

Asian Development Bank (ADB) Partnership - Disability Inclusive Social Development Across Asia and the Pacific

GDI Hub has partnered with the Asian Development Bank (ADB) since 2020. We began with a technical assistance project designed to integrate disability inclusion and innovation into their poverty, social and gender analysis work. We supported ADB with training and research, developing knowledge products while also delivering events and producing concept notes to help drive the disability inclusion agenda across the organisation and the region. Highlights include inclusive design training for ADB staff leading to the creation

of a bespoke e-learning course. Providing technical inclusive design and accessibility advice on a number of development projects and supporting the creation of Inclusive City: Urban Area guidelines for Georgia. The success of this early work has led to wider collaborations with ADB including AT Country Capacity Assessments in Sri Lanka and Mizoram (India) and our Economic Inclusion project that considers the importance of inclusive finance and private investment.

Investing in Disability Inclusion with the International Finance Corporation (IFC)

Persons with disabilities make up one of the largest minorities in the world. This presents an opportunity for businesses, corporate leaders, and investors worldwide to lead by example and realise the economic potential and inclusion of persons with disabilities as corporate leaders, employees, entrepreneurs, consumers, and community members.

GDI Hub contributed research and expertise to IFC's delivery of a comprehensive case for and step-by-step approach to integrate disability inclusion and accessibility principles and practices within investment strategies - throughout the investment process and life cycle.



The first movers – testing an AT Growth Fund

In delivering Innovate Now and the AT Impact Fund, we knew that private investment could revolutionise a venture's ability to scale, and we also knew the sector needed a testbed. Advancing a rich pipeline of ventures, alongside anchor funding from FCDO, we had the foundations. But as with all funds, success balanced on additional capital investment, which required economic and geopolitical stability. Ultimately, a change in administration in the USA began a policy shift both global in nature and sweeping enough to change priorities in the private and public sectors. Our ambitious pilot stalled, but in doing so has paved the way for others. Today we have partners, friends and collaborators

testing their own fund mechanisms – and by being transparent in our successes and the challenges, we are continuing to drive private investment into the AT sector.

Innovate Now was Africa's first assistive technology accelerator, and the AT Impact Fund put two million pounds of catalytic capital and technical expertise behind five of the most promising ventures on the continent. Together they tested a question the sector had only theorised about: whether assistive technology businesses in Africa can reach scale, and what they actually need in order to. That evidence now shapes GDI Accelerate.

Systems strengthening & market shaping: driving down AT prices, building country-level capacity, and filling evidence shortfalls

Systems strengthening goes beyond the device, delivering solutions to increase local capacity and creating enabling markets for AT provision and innovation so AT can reach the people who most need it. We have tackled the unaffordability of devices, addressed the skills gap for primary care professionals and contributed new evidence to inform country-level AT implementation.

In collaboration with partners we’ve delivered 18 Country Capacity Assessments (CCAs), to deep-dive into AT provision at a national level and identify recommendations for enhancing AT access. We also contributed 150 GDI Hub research papers to the WHO/UNICEF Global Report on AT.

Integrating AT into UNICEF’s Supply Catalogue to reduce hearing aid costs by 94%

The UNICEF catalogue enables governments around the world to procure competitively priced products, offering low-cost high-quality solutions purchased at scale. A joint global tender process alongside the World Health Organisation enables long-term agreements to be established and purchasing powers of scale for governments and partners.

In Rwanda the cost of hearing aids fell from \$2,000 to \$118. Overall early data shows an average price reduction of 84% for hearing

aids, and 34% for wheelchairs (the latter reduced by one county’s outlier score of 5%) (Cole, 2026). Our AT2030 programme has supported UNICEF to include more than 200 AT products for the first time in this critical global resource, including vision, hearing, mobility (wheelchairs) and incontinence.

Strengthening primary health systems through a WHO digital learning platform - TAP

The Global Report on AT, co-funded by our AT2030 programme, evidenced a gap in knowledge for primary health care providers around the world in delivering AT. Actioning these recommendations, we supported WHO to develop a learning platform for ‘Learning on TAP (Training in Assistive Products)’. This free tool covers 28 modules split across six areas including vision, hearing, mobility, communication, cognition, and self-care. Piloted in Liberia, Rwanda and Sierra Leone, TAP has shown to expand access to AT at the community level by increasing frontline worker awareness and capacity for basic AT screening and provision, enabling the identification of unmet need, as well as the strengthening of AT service coordination.



Learning
on TAP



Tools to support AT capacity - Country Capacity Assessments

The Country Capacity Assessments (CCAs) were initially a joint initiative of the World Health Organization (WHO), GDI Hub, and the Clinton Health Access Initiative (CHAI) under the AT2030 programme. The CCA is a system-level assessment that evaluates a country's capacity to provide appropriate assistive technology services that meet the needs of its population.

Through rapid landscape analysis and data collection on financing, procurement, and service delivery, the CCA supports stakeholders in understanding the current state of the AT sector, service delivery systems, and population needs. The insights generated identify key challenges, opportunities, and barriers to improving access to AT and provide the evidence base for developing and prioritising country-specific actions. We have conducted 18 CCA's to date. CCAs have proven to be an important tool for raising awareness among policymakers and other stakeholders about the critical role of AT and the existing gaps in its provision. The assessment process has also strengthened government commitment to improving access

to AT by enhancing leadership, coordination, planning, and financing. As such, the CCA serves as an effective entry point for governments seeking to build or strengthen the systems and foundational structures needed to fulfil commitments under the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and World Health Assembly Resolution 71.8 on improving access to assistive technology.



Bringing AT to communities in Rwanda

Over the past 7 years we have been working with the Clinton Health Access Initiative (CHAI) and the Government of Rwanda to bring AT to communities across Rwanda. Following a Country Capacity Assessment (CCA) to assess AT need and availability, Rwanda was one of four selected countries to receive support to implement their action plan. By developing an assistive product priority list (APL) and a disability information management system (to register every person living with self-reported functional difficulty around the country) Rwanda was able to evidence the need for

AT services. The Government of Rwanda has now committed to including the range of priority assistive products across mobility, vision, hearing, and self-care domains via the Community Based Health Insurance Package - which covers over 83% of the population. The ambition is that every person who may need it will be able to access assistive products through community-based health insurance. These outcomes demonstrate the power of long-term collaboration, system strengthening and market shaping to expand national access to AT.

“ The partnership between WHO and GDI Hub has been highly complementary in advancing the global agenda on assistive technology. GDI Hub has supported WHO through its technical expertise, research capacity, and innovation-focused approach, contributing to the development of the first UNICEF WHO Global report on assistive technology and the Learning on TAP training resource. The establishment of GDI Hub as a WHO Collaborating Centre for assistive technology research has further strengthened this collaboration. Through GDI Hub's extensive network of partners across sectors, WHO tools, resources, and evidence have reached a broad range of stakeholders, facilitating knowledge exchange and collaboration. At the same time, WHO's engagement with Ministries of Health and national health systems has helped create pathways for the uptake of innovations and resources at country level, supporting sustainability and integration into health systems.

Together, this partnership has helped connect global evidence, innovation, policy, and implementation efforts, contributing to improved access to assistive technology worldwide.”

**Kylie Shae, Medical Devices and
Assistive Technology Team (MDA), WHO**

“Over the last ten years, GDI Hub has become one of the most influential voices for AT innovation in international fora. In 2017, the FCDO commissioned GDI Hub to conduct a scoping report to answer the research question, “How best should a target intervention around the assistive technology (AT) sphere affect positive change for poor, disabled and older people in Global South priority countries?” This scoping report laid the groundwork for the UK’s AT2030 programme, led by the GDI Hub and launched in 2018. AT2030 tests and develops scalable models of innovative approaches to improve access to affordable AT in low- and middle- income (LMIC) countries, focusing on the development of new products, service delivery models, and strengthening global capacity.

We are incredibly proud that AT2030, with GDI Hub at the forefront, is one of FCDO’s flagship disability inclusion programmes... [which]... has helped shape our disability inclusion offer across our portfolio of research, evidence and innovation programmes.

GDI Hub taught us that innovation is not enough; it’s the market and the ecosystem that makes AT accessible broadly.... GDI Hub at its heart, centres on people with disabilities and their representative groups, who have been integral to the design, planning, implementation and evaluation of a range of solutions, to meet the needs of those who are often the most marginalised populations and can be the hardest to reach.

They have pushed all our programmes to think harder and aim higher for inclusion and accessibility.

”

Foreign Commonwealth & Development Office (UK Government)



“Before this partnership, CHAI's work was focused on mortality-driven health programs, and we had not yet worked in the field of disability and inclusion. Working with GDI Hub gave us a route into this space and foundation to build on. GDI Hub’s experience helped introduce CHAI to the gaps in assistive technology (AT) and enabled us to bring our own strengths in market shaping and government partnership to a new area: increasing sustainable access to AT. This work has since grown into a dedicated CHAI AT program, and AT is now included in CHAI's 2024–2028 strategy.

The partnership showed us how complementary organisations can drive far more impact together than alone. GDI Hub's grounding in disability-led, evidence-based innovation shaped how we think about inclusion at the core to how systems and markets should be designed from the start. Working with GDI-Hub has enabled us to prioritize system innovation, working with governments to understand what is needed and looking to innovators for what can be done. It has also helped CHAI build relevant networks with disability communities, both globally and within countries, deepening our understanding of these communities' health needs and surfacing gaps in our own programming that we might not otherwise have seen.

Through AT2030, our joint work on Country Capacity Assessments helped governments understand, plan for, and strengthen their own AT ecosystems. This strategic, practical approach has laid the groundwork for faster, more sustainable access to appropriate products and solutions. Our partnership has also catalyzed new collaborations, including with the LEGO Foundation and hundreds of grassroots organizations, which have to date supported more than 50,000 children with assistive technology globally.

GDI Hub has been a foundational partner in letting CHAI experiment and innovate in the AT space and a thought-partner on our journey towards inclusion. We are proud of what our partnership has achieved together over these years, and we look forward to continuing to work alongside GDI Hub to close the gap in access to assistive technology for millions of people who still need it.

”

Clinton Health Access Initiative (CHAI)

Participation and leadership: challenging stigma through sport and culture

Meaningful change cannot be achieved without amplifying stories, knowledge and disabled leadership. Working alongside partners, networks and Organisations of People with Disabilities (OPDs) we amplify cultural moments and build global networks to deepen participation and challenge stigma. We test and scale community level capacity building and amplify impact while deepening knowledge and evidence for decision makers. Advocacy enables us to shift perceptions, drive systemic change and challenge policy through targeted interventions - by amplifying lived-experience voices alongside deep evidence and insights.

Over the last 10 years we've collaborated with emerging disabled artists such as Jason-Wiltshire Mills, established and grown disabled leaders and innovator networks, partnered with OPD's and collaborated with organisations big and small. From award winning media agencies in Kenya (Shujaaz), to the International Paralympic Committee (IPC). We've built global partnerships and alliances that have the power to change narratives.

Para Sport Against Stigma: broadcasting the Paralympics to 250 million people across Africa for the first time

During the 2021 Tokyo Paralympic Games we facilitated the broadcast of free-to-air para sport coverage to 49 territories across Africa for the first time. Local language voiceovers and contextual framing supported increased visibility, and community level interactions, disability sport participation, athlete pathways, youth games and onward broadcast opportunities addressed deeper conditions shaping stigma in contexts like Malawi.

Through visibility, representation and storytelling, the project investigated how disability sport, media and assistive technology could support a deeper understanding of how stigma is structurally reproduced through systems. Led by Loughborough University London and the Malawi Paralympic Committee we collaborated with journalists and production companies, academics, community groups, the International Paralympic Committee and the wider para sports region across Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia and Zimbabwe.

Global OPD map: Largest-ever documentation of disability groups

Our Global OPD Map is an open-source resource showcasing the largest-ever documentation of advocacy groups led by disabled voices in the transnational disability community. Created to help OPDs find one another and be found by potential members, partners, and funders, the resource has over 2000 organisations and is fast developing into an important mechanism for keeping OPDs visible and connected. While this work remains in its infancy, the value of global tools, knowledge exchange and research are emerging rapidly.



Capacity building for impact and influence: with OPDs and disabled leaders

Understanding OPD ecosystems, financial barriers and capacity building requirements is fundamental to developing influence and impact. We've mapped regional ecosystems to understand more about the OPD context and conducted detailed needs assessments to provide a powerful narrative around experience and need. By understanding where capacity building is most needed, we've been able to

work alongside OPD communities to develop capacity aligned to local context. Alongside ecosystems, we've explored pathways to funding for OPDs in low- and middle-income countries. In a context of declining development budgets, channelling resources to local grassroots and disabled based organisations is more important than ever.



A seat at the global stage - the impact of advocacy and dissemination

Providing evidence and data for decision makers matters. Since inception GDI Hub has shared global stages with ministers, political figures, industry leads and powerful disabled leaders and activists. From the Conference of States parties (COSP) in New York, to the Global Disability Summit (GDS), the Social Development Summit and annual World Urban

Forums. We know that advocacy is central to policy change and the prioritisation of disability innovation, and by building influence we can amplify evidence and create space for diverse and emerging voices across international policy discussions.

Translating academic excellence and research rigour into practice

Over the past 10 years we have brought deep academic insights into real-world impact. We take a rigorous research approach to identify gaps, develop new solutions, and evaluate effectiveness.

AI Mapper: revolutionising accessible travel by translating research data into real-world solutions

Led by Professor Youngjun Cho and funded by UK Research and Innovation (UKRI), AI Mapper uses generative AI and real-time public transport data to make journey planning more accessible for persons with disabilities. Working closely with disability stakeholders, the research team co-created the AI Mapper user interface by identifying users' needs and turning these findings into actionable design insights. Behind the interface, a sophisticated AI engine brings together multiple transformer-

based language models to process large volumes of complex, real-time information, including data on different types of travel disruption. This enables AI Mapper to support more informed journey-planning decisions and provide users with more accessible and comfortable travel options. As of August 2026, the team has completed a series of field tests to assess the system in real-world travel situations and help make users' journeys safer, more reliable and less stressful.

Tacilia, Designing Interactive Technology for Blind Students

Started as a PhD project at UCL this innovation has developed into a collaboration between GDI Hub, Institute of Making, UCL's Interaction Centre (UCLIC), with user testing conducted in India with the Indian Institute of Technology Delhi (IITD). Tacilia aims to overcome the challenge of how to enable children who are blind or have partial sight to be better able to engage with Science Technology Engineering Arts and Maths (STEAM) education. The multiline, refreshable Braille and tactile graphic interface helps children read books and explore tactile diagrams to make sense of graphs, charts and other visual information. This practical affordable braille and tactile graphic display device enables the presentation of braille and tactile graphics on the same display so that students are able to read, create and learn on a single device.



AT2030 data and evidence portal - showcasing 800 resources across 112 countries

Our data and evidence portal seeks to reduce data gaps, promote knowledge sharing and ensure evidence reaches decision-makers, researchers and disability and development actors globally. From published studies to national surveys, cohort studies, and rapid Assistive Technology Assessment (rATA) surveys, the tool is designed for anyone involved in the research and analysis of need and availability of assistive technology at a country level.



Research to advance disability inclusion in health systems in the Eastern Mediterranean Region

In 2023 we provided expert contributions to the WHO on a situation analysis of disability-inclusive health systems in the Eastern Mediterranean Region where an estimated 134 million people live with significant disability due to increases in noncommunicable diseases and life expectancy. The report used mixed-methods to assess disability inclusion in the health sector, with a scoping review of 36 peer-reviewed studies, a survey from 15 Eastern Mediterranean Countries/Territories and key informant interviews with 10 experts. The evidence showcased that disability inclusion was often overlooked in the health sector, with gaps in planning, policy, financing, data, research and training. In order to drive change and concerted action

towards disability-inclusive health systems, we identified eight themes and priority areas: 1) political commitment, 2) health financing, 3) engagement of stakeholders in decision-making, 4) models of care, 5) the health and care workforce, 6) physical infrastructure, 7) monitoring and evaluation, and 8) health policy and research. The research also highlighted that disabled people's perspectives must be central across all thematic areas, to ensure any new developments are reflective of their needs and health systems providers are held accountable.

Contributing to The Royal Society's 2025 Disability Technology Report.

GDI Hub Academic Director, Professor Cathy Holloway was a member of the committee of experts for this important publication recognising the vital role that science, data, and innovation play in ensuring disabled people worldwide can access the technology they need. Joining the launch event panel Cathy shared insights from our groundbreaking

Mobile as Assistive Technology research. This report was an important milestone recognising Disability Technology within the wider context of scientific excellence. It called for a reframing of the value of assistive technology and equitable access through inclusive research and policy.



Addressing intersectional barriers and inequalities

GDI Hub works across many spaces, from the intersection of gender and disability to the cross-cutting disciplines of social science, international development, technology, advocacy, inclusive design, climate and architecture. Our rigorous and collaborative approach, alongside our multidisciplinary team, offers expertise and innovation to address intersecting inequalities.

Evidencing AT need in Humanitarian Contexts

In 2022 GDI Hub, alongside key international partners, wrote a report on Assistive Technology in Two Humanitarian Contexts, Bangladesh and Jordan. This report was one of the first of its kind, providing a new lens and evidence on the high unmet need for AT in humanitarian settings, and how people with unmet AT needs were managing in such challenging circumstances.

AT need in humanitarian contexts is driven by a multitude of intersecting circumstances. Children and adults of all ages need AT because they leave their AT behind during forced displacement, lose or damage their products as they flee, acquire new disabilities and AT needs as a result of the crisis, and have unidentified needs that were not met, even before the crisis. We know that without rapid provision of AT, lives can be lost.

Our findings highlighted how AT provision was ad hoc and largely delivered by non-governmental organisations (NGO's) within camps or communities. Despite its benefits, AT was rarely seen as a priority for those living on minimum income, and most people purchased their products through informal markets or local shops, increasing the risk of inappropriate AT use, which can lead to longer term damage to the user, and widespread device abandonment.

Devices alone will not ensure meaningful disability inclusion. A whole systems approach with cross-sectoral partnerships is required so persons with disabilities can access appropriate AT and participate fully in everyday life. This research was developed alongside CBM, HelpAge International and the Centre for Disability in Development.

Gender Dignity and Menstrual Health Management Kits for women and adolescent girls with disabilities in Bangladesh

The intersection of gender and disability has been a key focus of our AT2030 programme to ensure women, girls, and people of minority genders have equal access to AT. In 2023, we partnered with United Nations Population Fund Asia-Pacific Regional Office (APRO) to co-design Dignity Kits and Menstrual Health Management Kits with women and adolescent girls with disabilities in Bangladesh. Through engagement with stakeholders and women and girls with disabilities we used participatory design methods and storytelling to understand key challenges. By modifying kits and revising the educational material provided within the kits, we were able to provide inclusive support to women and girls with disabilities.





Testing an electric third-wheel with leasing model in Nairobi - Frontier Tech

This pilot tested different electric third-wheel attachments to add power-assist to manual wheelchairs, while creating an operational community model of leasing, local assembly and service support to embed affordability and sustainability. It looks at use of AT, the accessibility of the city and innovative ways to create employment. The partnership brought together community organisations, disability-led groups, design and technology partners, funders and local implementers. It is an example of global collaboration with innovators from India and Colombia supporting early testing in Kenya. The project collected user

data and insights to inform a scalable inclusive mobility model, centred on local ownership and trust. The community-led hub enabled user support and feedback, creating a stronger basis for adaptation than a technology-only pilot. By combining our knowledge of cities and infrastructure, alongside innovation, business, employment and AT, we have been able to deliver a new model for distribution and maintenance.

The role of Country Capacity Assessments in exploring intersecting barriers and challenges that affect access to AT at the country level



When GDI Hub first launched, a consistent collection method or data mechanism for the need and provision of AT at the national level did not exist. Our UK International Development funded AT2030 programme worked alongside the WHO to establish the Country Capacity Assessment (CCA), which has now been used globally to understand provision and recommend key priorities to support the rollout of AT at the national level. To date, we've supported CCA's globally, including England, Sri Lanka and Mizoram (India).

10 years of academic milestones

GDI Hub’s academic work has helped establish disability innovation as a rigorous research field at the intersection of human-computer interaction, engineering, design, data science, systems thinking, social justice and lived experience.

This foundation is visible across Professor Catherine Holloway’s work on disability interaction and inclusive design; Professor Youngjun Cho’s research on AI-enabled accessibility, sensing and adaptive technologies; Dr Ben Oldfrey’s work on material science, tactile interaction and low-cost assistive interfaces; Dr Tigmanshu Bhatnagar’s work on data, AI and knowledge systems; Our work on inclusive cities, participation and mobility; and Professor Vicki Austin’s systems and social justice research connecting disability innovation to power, policy and structural change.

Together, these strands show that disability innovation is not one discipline or one product. It is a way of bringing academic excellence, lived experience, engineering, design, data, policy and justice together to ask what makes participation possible.



GDI 10 Publications

Grassroots innovation, systems and humanitarian response

This section shows how GDI Hub has helped shift assistive technology innovation from isolated product development towards ecosystems, infrastructures and responsible adoption. These papers examine how innovation happens in practice — through open innovation, grassroots repair and invention, humanitarian systems, and AI governance — especially in contexts where formal provision does not yet meet need.

A review of innovation strategies and processes to improve access to AT: Looking ahead to open innovation ecosystems

Assistive Technology, 2021
doi.org/10.1080/10400435.2021.1970653
This scoping review identifies innovation strategies and processes that can improve global access to assistive technology, arguing that open innovation ecosystems, stronger financial instruments and mission-led investment are needed to move beyond product-level innovation towards system-wide access.

Catherine Holloway, Dafne Zuleima Morgado Ramirez, Tigmanshu Bhatnagar, Ben Oldfrey, Priya Morjaria, Soikat Ghosh Moulic, Ikenna D. Ebuonyi, Giulia Barbareschi, Fiona Meeks, Jessica Massie, Felipe Ramos-Barajas, Joanne McVeigh, Kyle Keane, George Torrens, P. V.M. Rao, Malcolm MacLachlan, Victoria Austin, Rainer Kattel, Cheryl D Metcalf and Srinivasan Sujatha

Jugaad Justice: Grassroots DIY-AT as Substitute Infrastructure in India

ASSETS 2026 · Social Impact Award Nominee
doi.org/10.1145/3797867.3829010
Analysing 541 grassroots innovations and eight in-depth interviews, this paper shows how disabled people, families and communities across India build their own assistive technology where formal provision fails — and argues this practice deserves recognition as infrastructure, not improvisation.

Tigmanshu Bhatnagar, Bex Manlove, Soma Banerjee, Sayomdeb Mukherjee, Cathy Holloway and Vicky Austin

Bridging AI and Humanitarianism: An HCI-Informed Framework for Responsible AI Adoption

CHI 2025
doi.org/10.1145/3706598.3713184
Drawing on 34 interviews with AI experts, humanitarian practitioners and policymakers, this paper offers a practical framework for adopting AI responsibly in humanitarian crises — where the stakes of getting it wrong are highest.

Tigmanshu Bhatnagar, Maarya Omar, Davor Orlic, James Smith, Cathy Holloway and Maria Kett

Meeting AT needs in humanitarian crises: The current state of provision

Assistive Technology, 2021
doi.org/10.1080/10400435.2021.1934612
This paper shows that despite legal commitments to include disabled people in humanitarian response, assistive technology provision in crises remains fragmented, small-scale and poorly evidenced — making AT access a critical gap in life-saving assistance.

Golnaz Whittaker, Gavin Adam Wood, Giulia Oggero, Maria Kett and Kirstin Lange

Human-computer interaction, accessibility and interdependence

This section highlights GDI Hub’s contribution to HCI and accessibility research, showing how technology can support embodied recovery, communication equity, collaboration across ability difference, and richer understanding of lived experience. Together, these papers move accessibility beyond individual usability towards participation, interdependence and everyday life.

Mindfulness-based Embodied Tangible Interactions for Stroke Rehabilitation at Home

CHI 2024 · Best Paper Award
doi.org/10.1145/3613904.3642463
This award-winning paper introduced a whole new way of designing home stroke rehabilitation — weaving mindfulness into tangible, touchable technology so recovery supports both body and mind.

Preetham Madapura Nagaraj, Wen Mo and Cathy Holloway

A Systematic Review of Ability-diverse Collaboration through an Ability-based Lens in HCI

CHI 2024 · Best Paper Honourable Mention
doi.org/10.1145/3613904.3641930
Reviewing two decades of research, this paper gave the field a shared framework for designing technology that helps people of all abilities work together — shifting the conversation from independence to interdependence.

Lan Xiao, Maryam Bandukda, Katrin Angerbauer, Weiyue Lin, Tigmanshu Bhatnagar, Michael Sedlmair and Cathy Holloway

Enhancing Communication Equity: Evaluation of an Automated Speech Recognition Application in Ghana

CHI 2024 · Best Paper Honourable Mention
doi.org/10.1145/3613904.3641903
The first study of personalised speech recognition with people with non-standard speech in Ghana, showing how AI can amplify communication — or deepen inequality — and laying the foundations for our digital language inclusion work.

Gifty Ayoka, Giulia Barbareschi, Richard Cave and Cathy Holloway

Bridging the Digital Divide: Enhancing Digital Inclusion of Blind or Partially Sighted and Deaf or Hard of Hearing Individuals in Low- and Middle-Income Countries through Smartphones as Assistive Technology

ACM Transactions on Accessible Computing, 2026
doi.org/10.1145/3783991
This paper shows that smartphones can operate as assistive technology when paired with scaffolded digital skills training, improving digital literacy and self-efficacy for blind or partially sighted and deaf or hard of hearing people across Brazil, India and Kenya.

Maryam Bandukda, Mary Caroline Yuk, Giulia Barbareschi, Laxmi Gunupudi, Vinicius Ramos, Satish Mishra, Amit Prakash, Victoria Austin and Catherine Holloway

The Social Network: How People with Visual Impairment use Mobile Phones in Kibera, Kenya

CHI 2020
doi.org/10.1145/3313831.3376658
This CHI paper shows how mobile phones support and reshape the social infrastructure of people with visual impairment in Kibera, revealing that digital inclusion depends not only on devices, but on the direct, supported, dependent and restricted interactions through which people access everyday life.

Giulia Barbareschi, Catherine Holloway, Katherine Arnold, Grace Magomere, Wycliffe Ambeyi Wetende, Gabriel Ngare and Joyce Olenja

The EmoPain@Home Dataset: Capturing Pain Level and Activity Recognition for People with Chronic Pain in Their Homes

IEEE Transactions on Affective Computing, 2024
doi.org/10.1109/TAFFC.2024.3390837
The first open dataset of body movement from people with chronic pain in their own homes — a resource that lets researchers worldwide build technology that understands pain in real life, not just the lab.

Temitayo Olugbade, Raffaele Andrea Buono, Kyrill Potapov, Alex Bujorianu, Amanda C. de C. Williams, Santiago de Ossorno Garcia, Nicolas Gold, Cathy Holloway and Nadia Bianchi-Berthouze

Human-computer interaction, accessibility and interdependence

This section focuses on emerging uses of generative AI and large language models in education and accessibility. These papers show how AI systems can be co-designed with students and shaped around neurodivergent learning needs, rather than assuming one-size-fits-all approaches to study, attention and support.

GamifiedLM: Co-Designing an LLM-Driven Gamified Learning App with University Students to Mitigate Learning Difficulties

Designing Interactive Systems Conference 2026 · Honourable Mention
dl.acm.org/doi/full/10.1145/3800645.3812916
This paper presents a co-designed, LLM-driven gamified learning app developed with university students to help mitigate learning difficulties, showing how generative AI can be shaped through participatory design to support more engaging and accessible learning experiences.

Kaiyuan Tang, Kerui Chen, Shreya Gopi, Li Xie, Mark Quinlan and Youngjun Cho

Exploring LLM Agents as Interactive Mind Map Creators Tailored for Students with ADHD

UIST Adjunct 2025
discovery.ucl.ac.uk/id/eprint/10215002
This work uses AI agents to transform dense text into interactive mind maps designed for students with ADHD — an early glimpse of how generative AI can be shaped around neurodivergent learners rather than the other way round.

Kaiyuan Tang, Kerui Chen, Zhou Jiang, Mark Quinlan and Youngjun Cho

Assistive technology access, evidence and policy

This section brings together evidence on who needs assistive technology, who gets access, and what difference it makes. These papers provide the population-level, policy-relevant and lived-experience evidence base needed to design fairer assistive technology systems and influence global and national decision-making.

Estimating need and coverage for five priority assistive products: a systematic review of global population-based research

BMJ Global Health, 2022
doi.org/10.1136/bmjgh-2021-007662
This global systematic review quantified the gap between need and access for the world’s most essential assistive products — evidence that fed directly into the WHO/UNICEF Global Report on Assistive Technology. Jamie Danemayer, Dorothy Boggs, Vinicius Delgado Ramos, Emma Smith, Ariana Kular, William Bhot, Felipe Ramos-Barajas, Sarah Polack and Cathy Holloway

Understanding the Impact of Assistive Technology on Users’ Lives in England: A Capability Approach

Bioengineering, 2025
doi.org/10.3390/bioengineering12070750
Drawing on England’s 2023 national assessment of assistive technology access and use, this paper shows that assistive technology matters not only because it supports function, but because it expands people’s autonomy, participation, identity, confidence and peace of mind in everyday life.

Rebecca Joskow, Dilisha Patel, Anna Landre, Kate Mattick, Cathy Holloway, Jamie Danemayer and Victoria Austin

Unmet Need for Assistive Technology in Sri Lanka: Findings from Nationally Representative Survey Data

The Lancet Regional Health – Southeast Asia, 2026
doi.org/10.1016/j.lansea.2026.100807
Using WHO assessment tools and nationally representative survey data, this paper shows that unmet assistive technology need in Sri Lanka is shaped by age, sex and geography — with older adults, women, and rural and estate communities facing the greatest barriers to access.

Dilisha Patel, Jamie Danemayer, Pavithra Jayawardena, Hasintha Wijesekara, Nadeesh de Silva, Maria Kett and Victoria Austin

Demographic, socioeconomic, and social barriers to use of mobility assistive products

The Lancet Public Health, 2025
doi.org/10.1016/S2468-2667(24)00243-3
Analysing 13 years of data from the English Longitudinal Study of Ageing, this paper revealed that women are disproportionately likely to have unmet mobility aid needs — hard evidence for who assistive technology systems are leaving behind.

Jamie Danemayer, Mikaela Bloomberg, Adam Mills, Cathy Holloway and Shereen Hussein

Assistive technology engineering and product innovation

This section showcases engineering and product innovation where materials, sensors and fabrication techniques are used to create new forms of assistive technology. These papers demonstrate how technical invention can open new possibilities for comfort, interaction, sensing and accessible design.

Additive manufacturing techniques for smart prosthetic liners

Medical Engineering & Physics, 2020
doi.org/10.1016/j.medengphy.2020.11.006
This paper showed how 3D printing can build sensing directly into prosthetic liners — opening a path towards prosthetics that are more comfortable, more responsive and more affordable to make.

Ben Oldfrey, A. Tchorzewska, R. Jackson, M. Croysdale, Rui Loureiro, Cathy Holloway and Mark Miodownik

A Deep Learning Approach to Non-linearity in Wearable Stretch Sensors

Frontiers in Robotics and AI, 2019
doi.org/10.3389/frobt.2019.00027
This paper shows how deep learning can calibrate highly non-linear textile and elastomeric stretch sensors, enabling reliable real-time strain measurement for wearable technologies without needing perfectly linear sensor materials.

Ben Oldfrey, Richard Jackson, Peter Smitham and Mark Miodownik

Transforming a Monolithic Sheet of Nitinol into a Passive Reconfigurable Tactile Pixel Array Display at Braille Resolution

2021 IEEE World Haptics Conference (WHC)
doi.org/10.1109/WHC49131.2021.9517239
This paper transforms a single sheet of Nitinol into a 27 × 27 reconfigurable tactile pixel array at Braille resolution — demonstrating how shape-memory materials can create compact, erasable tactile displays for drawing, reading and interaction.

Tigmanshu Bhatnagar, Nicolai Marquardt, Mark Miodownik and Cathy Holloway
Ben Oldfrey, A. Tchorzewska, R. Jackson, M. Croysdale, Rui Loureiro, Cathy Holloway and Mark Miodownik

Looking to the future

Ten years ago the question was whether disability innovation could work. That question is settled. The harder questions now are where it is needed most urgently, who it reaches, and who pays for it.

The landscape has changed around us. AI has moved from the margins to the centre of how people communicate, navigate, learn and work. Climate has become the defining pressure on the cities where most persons with disabilities live. And the development funding that built much of this sector is contracting sharply, while private capital takes on a larger role. Six years ago, the Covid-19 pandemic pushed us into deeper reliance on local partners and local leadership, and our work has been better for it ever since. Rapid change can produce unexpected strength. Going forward, in a new era of uncertainty, we continue to believe in this.

So we are concentrating the next decade on four priorities. They are not programmes. They are the questions we think will matter most, and where we believe GDI Hub can make the greatest difference.

1. Cities – driving inclusion and climate action

How do we make sure disabled people are leading solutions as climate and global challenges impact where they live?

Most disabled people live in cities, and most of the world's urban growth is happening in places least equipped to absorb it. Cities are where global challenges collide, offering opportunities for innovation and creativity in how we live, work and play. We've built knowledge capital in this space and our data shows this is an intersection nobody planned for. Changing weather patterns, increasing climate-related disasters and other challenges from pandemics to conflict, are reshaping what an inclusive and accessible city needs to be. We know cities are better when disabled people are involved in designing them and we will continue our research to demonstrate the benefits this unlocks for all.

Over the next ten years we will close this emerging equality gap. Cities are where we can test inclusive design and disability innovation across systems and scales, to build a more resilient future. We will work with the communities most affected, disabled people living in poverty, in informal settlements, in post-conflict and post-disaster contexts, to grow the evidence base, build and test solutions for the changing global climate. We will work with city governments and UN agencies to influence policy and funding mechanisms ensuring cities are resilient with disabled people placed at the heart of solutions. We will make the case for investing in inclusive and resilient cities, and how disability innovation can drive growth and sustainable development. Success is when disability inclusion is not siloed but part of climate action, urban systems and services and when the people most affected are leading community-based solutions that benefit everyone.

2. AI and the future of interaction

Who is AI built for, and what happens to everyone it wasn't?

AI is the single largest opportunity and the single largest risk in our sector. Built on the right data, it can close the assistive technology access gap faster than any programme we have run. Built on the wrong data - and almost all of it currently is - it will bake exclusion into the infrastructure making it much harder to undo.

We are already working at that fault line. Our Centre for Digital Language Inclusion has collected 13 languages and released open-source datasets so that people with non-standard speech can be understood in their own language. Our mobile-as-AT research across Kenya, India and Brazil is changing how the telecoms industry and national policy treat smartphones. Our data portal makes evidence from 112 countries usable by the people who need it.

We will keep building the open datasets, tools and evidence that make inclusive AI possible, in the languages and contexts that commercial developers will not reach - and we will put what we know into the hands of innovators, through tools like Founders Think, rather than leaving it in papers.



3. Financing social justice

When aid retreats, where does the money for inclusion come from?

We have already learned this one the hard way. Our AT Growth Fund was right in principle and wrong in timing, and it taught us that the sector's dependence on a narrow band of public funding is a structural risk, not a background condition. Development budgets are shrinking. The money that remains is harder to reach for organisations closest to the problem.

Our work on economic inclusion - with the IFC, the Asian Development Bank, PIDG, the Climate Investment Funds, and with eight OPDs on funding pathways - has convinced us that finance is not a supporting function of this agenda. It is the agenda. Who holds capital determines what gets built and for whom.

We will keep testing capital instruments for inclusion: blended finance, disability-lens investing, smaller and more diversified funds that can move when large ones cannot. We will keep pushing to get resources to grassroots and disabled-led organisations. And we will be honest that private capital is not a substitute for public commitment - it is an addition to it, and it needs holding to account.

4. Belonging and fairness

What does it mean to belong, and what does fairness look like as inequality widens?

Technical solutions can only take us so far. A device that works in a laboratory and fails in a life is not a solution. Over ten years the clearest finding across all our work is that access is necessary and not sufficient - participation depends on environments, relationships, systems and the sense of being wanted somewhere.

This is where our research goes next. We are extending our work on disability interactions towards belonging-oriented design: understanding not just how people use technology, but what it takes for them to feel part of the world it connects them to. It is also taking us into new territory - the intersection of trauma and assistive technology, and the needs of neurodivergent people, both significantly underserved by the current evidence base.

And it is why we keep investing in people. Our MSc alumni, our PhD researchers and the Disabled Leaders Network are how this agenda outlives us. We will grow that pipeline, extend our international presence beyond London, and keep turning attention to the fairness questions closest to home in the UK and Europe as well as those furthest away.

Our tenth year coincides with the twentieth year of the UN Convention on the Rights of Persons with Disabilities, and the Sustainable Development Goals reach their conclusion in 2030. It further coincides with 200 years of UCL. It is a moment to ask what next - not only for the world, but for us.



GDI Hub would like to extend our thanks to every organisation, person, partnership, collaboration, friendship and funder that have made the last 10 years possible. With a particular mention to Hogan Lovells Cadwalader, FCD, Asian Development Bank and Google.org for your ongoing support and commitment to disability inclusion.

We've come a long way, and we are just getting started.

If you need this document in alternative, accessible formats, please contact h.kamau@ucl.ac.uk

www.disabilityinnovation.com

