2020 Comprehensive Spending Review

Representation to HM Treasury

Global Disability Innovation Hub Submission

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Summary

- In order to strength the UK's place in the world, investment by the UK Government internationally could lead the world in Disability Innovation, resulting in progress toward achieving the Sustainable Development Goals (SDGs), delivering on Human Rights Commitments and continue to building the UK's leadership in science, particularly regarding assistive technologies and its relevant industries. Spending on international aid, particularly where focused on supporting the most excluded groups, should not decline.
- The inclusion of disabled people, who have been particularly hard hit by COVID, must remain a priority at home and abroad, and so must UK-led science partnerships which are breaking new ground nationally and internationally.
- The development of market-leading product designs for assistive and accessible technologies (AT) should be expanded, with adequate budget allocated to ensure the UK continues to lead.
- Using our diplomacy and expertise to build up distributed manufacturing capacity globally will help our products reach millions who are in need.
- A focus on using what we have learned internationally on AT and delivering a joined-up UK AT approach would not only deliver on government commitments around efficiency, access to work and improved service delivery, but would also represent possibly the most ambitious plan for AT this country has ever seen. This should be invested in, and a central commitment in the forthcoming National Strategy for Disabled People.

About the GDI Hub and AT2030

The Global Disability Innovation Hub (GDI Hub) is a research and practice centre driving disability innovation for a fairer world. It currently holds a portfolio of more than 40 projects valued at £50m and is operational in more than 30 countries.

GDI Hub grew out of the legacy of the London 2012 Paralympics Games and our methodology of disability innovation uses technology to further disability inclusion and social justice for all. GDI Hub believes in doing things differently and tries to disrupt current ideas and practice to create change with the very best partners. More than a product, service or policy, disability innovation is a way of thinking to address challenges by co-designing solutions and sharing knowledge. We believe that disability innovation, when done well, should deliver solutions which are better for everyone.

Founded by top academic institutions and the team responsible for the London 2012 Paralympic Legacy programme, GDI Hub brings a unique perspective to the rapidly evolving field of Disability Innovation. GDI Hub is formed of two constituent entities, the UCL-led Academic Research Centre (ARC) and the associated non-profit Community Interest Company (CIC). Both are guided by an Advisory Board made up of disabled people with representatives from three continents.

GDI Hub has five domains across which it works:

1. Research: creating new knowledge, solutions and products (ARC)
2. Innovation: growing inclusive enterprise ecosystems (CIC)
3. Programmes: testing what works (CIC)
4. Teaching: sharing knowledge, learning and developing pioneers (ARC)
5. Advocacy: shaping the conversation through evidence (CIC)

This has meant that GDI Hub is in a prime position to move programmes such as AT2030 forward. Led by GDI Hub and funded by UK Aid, the AT2030 programme is a £20m investment by UK Aid (match-funded by GDI Hub) to test what works in improving access to AT globally. The programme aims for the most ambitious impact possible and greatest value for money by bringing together both research and implementation activities.

As a consequence, AT2030 is divided into four Programme Clusters: (1) Data & Evidence, (2) Innovation, (3) Country Implementation, and (4) Capacity & Participation. AT2030 is operational in 15 countries across Africa and Asia. AT2030 will reach 9 million directly and 6 million more indirectly, driving a lifetime of potential. Through AT2030, GDI Hub and its partners are exploring a) how lean impact models can be combined with distributed manufacturing and b) how advances in technology can be leveraged to develop new supply and delivery chains which are more accessible and resilient.

This representation aims to highlight the importance of retaining the UK's commitment to spending 0.7% of GDP on aid if it aims to remain and grow as a world leader in the field by showcasing the impact of innovation in AT. We also aim to stress the additional burden COVID-19 presents to the disabled community and some of the ways in which GDI Hub aims to utilise the learnings from the pandemic so that they can be applied to AT in the long-term with greatest efficiency.

Introduction – the scale of the challenge

Globally, over one billion people are currently in need of AT. By 2050, this number is predicted to double [1]. AT can make the impossible possible for people living with a wide range of impairments, but a lack of access to basic AT – such as eyeglasses, hearing aids, wheelchairs or, increasingly, mobile applications – excludes individuals and reduces their ability to live full, enjoyable, and independent lives [2]. Despite the proven advantages of AT for disabled and older people, their families and society as a whole, there is still a vast and stubborn gap between the need and the supply; currently only 10% of those who need AT currently have access to it [2].

The UN Convention on the Rights of Persons with Disabilities (UNCRPD), ratified by 181 countries [3], established AT provision as a human right. It has also highlighted that a lack of AT is a barrier to the realisation of the SDGs [4]. Increased momentum in the disability movement and academia, has helped to show that - used appropriately and delivered with the right services in the context of an accessible environment - AT is empowering, cost- effective, and vital to meet the growing needs of 21st century populations [2].

It has been reported in the World Health Organization (WHO) World Report on Disability that inadequate policies, standards, lack of data, and evidence are among the barriers to inclusion [2]. Unfortunately, although AT needs are recognised globally, many countries still lack data and information to make evidence-based policymaking in relation to AT a reality. The UK is no exception to this with the true unsatisfied AT need of disabled people in the UK and its associated costs yet to be discovered.

Impact of the UK's investments

In 2018, the UK Government co-hosted its first ever Global Disability Summit with the International Disability Alliance and the Government of Kenya. The AT2030 program is a result of the Summit, and of the commitment made by the UK Government to support technology and innovation to transform access and affordability for life-changing AT [5].

The program was developed by the then Department for International Development, now the Foreign Commonwealth and Development Office (FCDO) and is the largest of its kind. The £20 million AT2030 programme is testing "what works" to improve access to AT and investing in solutions to scale with a focus on innovative products, new service models, and global capacity support.

Over the course of the last two years, both GDI Hub and AT2030 have continued to set the pace regarding disability innovation and AT around the world both in terms of direct impact on people with disabilities, but also in increasing influence within countries and national governments to make positive change.
So far, the program has been deployed in 25 countries, working directly with 13 partners, and an additional 25 supporting partners. In the last year alone, the investment by the FCDO in AT2030 has ensured that 1,289,287 people have been direct beneficiaries, whilst 2,553,472 people have benefited indirectly – and these numbers will only continue to grow as the programme continues to establish partnerships, invest and research. Indeed, AT2030 currently has 40 live projects, 42 research partners and 22 active research projects, and 55 research publications as part of its portfolio of successes. The value of GDI Hub's profile is now valued at £50 million – without the FCDO's investment this would not have been possible.

AT2030's delivery targets for key outcomes focus on growth and scale concerning innovative assistive technologies, AT Ventures, innovative service delivery models

and new ideas around AT provision (findings, research or new methodologies). Indeed, in the last year alone AT2030 has enabled the establishment of 3 innovative AT solutions, 5 delivery service models – both of which are on track to scale, as well as supported 8 AT ventures for sustainability globally.

It is still too early to have a figure, but it is expected that AT2030 investment will continue to prompt further investment to be accrued both through the Impact Fund [6] and Country Investment Fund [7] streams but also through established partnerships. Indeed, the Norwegian Agency for Development Cooperation (NORAD) provided an additional £2 million in match-funding to support the AT2030 project through work with WHO. As the programme progresses and further partnerships developed, this figure will continue to increase.

The UK Government's investment in AT has also influenced the strategies and budgets of other countries. As part of AT2030, Country Capacity Assessments (CCAs) have been conducted for the first time in 10 countries globally across Africa, Asia and South America. A CCA is designed to enable data collection at both a systems and community level respectively in order to give an overarching view on a national landscape in relation to AT. The WHO has worked with GDI Hub, the Clinton Health Access Initiative and UCL to develop and refine the tools associated with the CCA tools to create a CCA toolkit. These CCAs have an average cost of $35,000 USD and have resulted in a wide variety of positive outcomes. Simply the process of embarking on the CCA process has enabled not only the collection of data but has also motivated national governments to further pursue progress in the access of AT for disabled people within their countries. This can be seen in Ethiopia, for example, as the Ethiopian Government has now provided a budget line specifically for AT. This area of work will demonstrate that at least 5 of these CCA countries have now developed National AT Action Plans. GDI Hub and WHO will soon publish a report on the learnings from these processes.

AT2030 role in making the UK a scientific superpower

GDI Hub works within University College London and supports UK science more broadly. AT2030 generates research through UK-based academic institutions as well as with a number of universities and international organisations, such as the WHO, around the world. As such, GDI Hub has continued to build evidence into an expansive evidence-gap related to disabled people, disability innovation and AT.

GDI Hub, with support from the FCDO, indeed leads by example, making co-design with disabled people, their families and their representative organisations a cornerstone of our interventions. The UK has the potential to further build on momentum, ensuring its standing globally as a leader in science and technology, as well as disability innovation.

Assessing COVID-19 impact on the disabled community

While COVID-19 has catalysed innovation, it has also revealed deficiencies in our preparedness, and raised the need to address these issues more systemically, and at a global scale.

Not all segments of society were affected in the same way by the COVID-19 pandemic. The situation has raised explicit challenges for the inclusion of disabled people and, therefore, has affected their participation in daily life. While community mobility, access to education, employment and health care [8] have been felt globally, disabled people might be affected by some of these changes in unexpected ways [9, 10]. Although having a disability most of the time does not put someone

directly at higher risk of being infected by COVID-19, many disabled people have additional underlying conditions that make them more susceptible [11]. Many disabled people also rely on frequent in-person interactions with their own social support network for their basic needs, which could increase the risk of contracting the virus [12, 13].

GDI Hub has been collecting data on the impact of COVID-19 in the disabled community in relation to: AT use and provision during COVID-19; mobility training for the visually impaired during lockdown; user needs and experience of asynchronous collaboration technologies while working from home; the development and implementation of inclusive innovations and initiatives in Africa in response to the COVID-19 pandemic; and inclusive digital technology to amplify social connectedness through collective cultural experience during social isolation.

Strengthening the UK's economic recovery from COVID-19

As mentioned previously, there is very little data to hand globally on AT access, the nature of unsatisfied AT need and any potential return on investment (ROI) for AT. GDI Hub understands that there are significant market failures, in large part due to poor evidence and a lack of coordination across sectors and across countries. Furthermore, a lack of reliable data creates barriers to investments, as well as the lack of a common framework to measure progress and uncoordinated actors resulting in deficient global cohesion.

AT2030 is aiming to change that, not only through tool development and the completion of the CCAs but also through cutting edge science. The UCL Department for Computer Science (CS) with input from Institute for Innovation and Public Purpose (IIPP), will improve data and evidence to enable better decision making and

unlock investment into AT. Our teams will work to frame the economics of AT around a mission-led approach with the objective of developing a return on investment framework. It is hoped that the impact of this work will take place through increased investment in AT in partner countries, and through application of more coherent AT innovation and investment policy models. The team will also be developing an investment multiplier (ROI) econometrics model for AT investments that will help governments and other actors to justify and track AT investments and their dynamic spill-overs over time. Although this work is only at a very early stage, and so cannot yet provide reliable figures, this puts the UK at the very heart of the global scientific stage.

GDI Hub is also a partner in FCDO funded COVIDAction [14] and we lead on the Local Production Local Solutions (LPLS) theme which looks to increase local resilience to global scenarios by using two approaches – Circular Economy (CE) and Distributed Manufacturing Systems (DMS).

Supporting the reduction of carbon emissions

In partnership with FCDO and Brink, GDI Hub researchers have been working on mapping local production and local manufacturing capabilities in Low and Middle-Income Countries (LMICs) to support the global COVID-19 response.
This work has shown that CE approaches have come to the forefront in many local contexts. With many supply chains now compromised by the pandemic, supply loops that make use of local materials and locally available resources are the ones that are most resilient to outside change. This experience can also be used to strength UK's own economy recovery from COVID-19. The work involves seeding funding to develop manufacturing ecosystems on these principles across LMICs in Africa and Asia and developing learnings from these to be applied in various other contexts.

It is our position that through localised/decentralised manufacturing using DMS to create networks of supported production hubs, the economic and environmental costs of producing AT and other important products are reduced. This is because products are made by and for the local community, drastically reducing the carbon footprint, compared to long global supply chains for imported goods.

CE principles instil the best use of materials and products along the value chain, such as use of local materials and recycling along product specific pathways that lock in value and minimise environmental impact. A major aim is to prove the business case of these two environmentally beneficial approaches, CE +DMS, to localised manufacturing, in order to attract further investment going forward. Examples of LPLS investments include: Recycled bottlecaps made into face shields in Nigeria & Rwanda, waste management services on plastic PPE gowns in Kenya, biodegradable locally produced sanitary pads in Zambia.

Investigating AT's role in the prioritisation of jobs and skills

Out of the 14.1 million disabled people living in the UK, 19% are working age adults [15]. Before the coronavirus outbreak 4.4 million disabled people were employed. However, it is feared that the so-called disability-employment gap could get worse with the pandemic, especially because it has been shown that disabled people are twice as likely to be unemployed than non-disabled people [16].

Although the employment rate gap between disabled and non-disabled people has been reduced over the past few years, it still remains at 28.6% [17]. As COVID-19 continues to change the world, according to the OECD 2020 employment outlook report, it is predicted that UK unemployment will reach record levels of up to 11.7% by the end of the year [18]. It has also been reported that: "Between January-March

2020 and April-June 2020, for disabled people, there was a slight fall in the employment rate and a small increase in the inactivity rate." [19].

AT has the potential to support the Government goal to see 1 million more disabled people in work between 2017 and 2027 [17]. The need for innovative (including digital and tele AT) solutions is greater now than when GDI Hub began.

Working from home has become the "new normal", and this could be an opportunity for improved accessibility for disabled job seekers. The broader acceptance of flexible working arrangements, the adoption of virtual recruitment, and the lack of commuting might open opportunities to level the playing field of opportunities. This is an opportunity for culture change, where reasonable accommodations to employees must be considered by the employer even in post-Covid times.

As mentioned previously, evidence around disability and AT is thin. The true cost of the unmet need of AT across all disabilities within the UK context is unknown. However, we do have some relatively recent data on musculoskeletal conditions (MSK) which estimates that "Only two thirds of working-age people with a musculoskeletal condition are in work and these conditions are now the leading cause of sickness absence, resulting in a fifth of all absence – around 30.6 million working days lost each year. Back pain alone costs the economy an estimated £10 billion each year. Moreover, as the population ages and people are expected to lead longer working lives, a greater proportion of the working population will have musculoskeletal conditions" [20]. This data obviously excludes all other disabilities and therefore does not speak to the overall cost of excluding people with disabilities from education and employment through the lack of appropriate AT access. It does however paint a picture that demonstrates an enormous loss for the UK economy should investment in potential solutions, disability innovation, wane.

Role of Inclusive Infrastructure in levelling up economic opportunity

Role of Inclusive Infrastructure in levelling up economic opportunity
One of GDI Hub's areas of expertise is Inclusive Design and Inclusive Infrastructure. The WHO Report on Disability states that complying with disability standards in new constructions costs only 1% of the budget, while making older buildings more accessible is a lot more challenging and costly [21]. The Design Council has also highlighted the importance of adopting inclusive design from inception stage since its consideration at a later stage is likely to increase the cost 10,000 times [22].

Prior to the establishment of GDI Hub, many of the team worked on the Paralympic Games in 2012 to achieve the ambitious but attainable 'most accessible games ever'. Indeed, an example of the success of inclusive infrastructures is the Olympic Park. The Paralympic legacy ensured the park, and the surrounding area were inclusive, and accessible from inception and therefore, there was no additional project budget required or allocated - it was an expectation within existing project budget allocations. This was delivered through a process and an understanding that at all levels of involvement, from senior figures to delivery agents, that inclusivity and accessibility was a necessity from the outset. The resource that supported this process was provided by the London Legacy Development Corporation, a mayoral development corporation. The result today is a more attractive piece of new city that is well connected and supports a wide range of end users through a number of discreet and effective inclusive design interventions. AT2030 also has a subprogramme examining inclusive infrastructure. This subprogramme will develop 6 case studies based on six cities around the globe.

The aim of this research is to build evidence on the awareness, understanding, acceptance, application and experience of Inclusive Design and accessible environments globally, particularly in lower and middle-income countries by conducting research in three areas:

- The community experience of disability and the built environment;
- Practice focused research on the awareness and application of inclusive design;
- Policy-focused research on the governance, guidelines and protections of inclusive design at the highest levels.

During the subprogramme's first case study in Ulaanbaatar in Mongolia the work has shown that more research is needed on the budgeting of inclusive design since there is a perception among decision-makers that it adds cost. This creates a barrier to implementing more inclusive infrastructure and built environment projects and programmes. Inclusive design approaches if planned in, and accounted for from the outset, should not cost more, and the cost of adaptations post construction are generally more expensive. Education on the awareness on the wider values of inclusive environments, such as facilitating access to education and employment opportunities is necessary [23].

Priority Actions and Quick Wins

1. Funding a UK Country Capacity Assessment (CCA) on AT (c£50k based on other countries and depending on scope):

    a. GDI Hub is keen to ensure that, through the UK National Disability Strategy, a UK CCA is completed before a national AT centre is scoped. Allowing for more data to be gathered to inform policy and practice.
    b. Should the UK complete a CCA, it would be the first high-income country to do so, leading the way for others to follow, using tools we ourselves developed for and with international partners like WHO.

2. Investment in localised/decentralised manufacturing using Distributed Manufacturing Systems to create networks of supported production hubs is necessary so that the economic and environmental costs of producing AT and other important products are reduced.

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