

Wheelchair users call for urgent innovation to increase global economic productivity

- **International survey reveals the impact of having to use a wheelchair or mobility device on job opportunities:**
 - **Two out of five wheelchair users polled state they have been unable to work as a result of their device (39%).**
 - **Nine out of ten say they have experienced negative consequences as a result of using a mobility device when working or job hunting (89%).**
 - **Three in ten said they feel their talent has been wasted as a result of their device (29%).**
- **With three in ten wheelchair users polled saying they feel frustrated by the outdated design of their mobility device (30%), Toyota Mobility Foundation is encouraging global innovators to enter the *Mobility Unlimited Challenge* and improve the lives of millions of people around the world.**

London, England (July, 19 2018) - Data from a new international survey of wheelchair users¹ on behalf of the **Toyota Mobility Foundation** highlights the need for innovation in the field of assistive technology to allow people with limited mobility the opportunity to fulfil their potential in the workplace. The impact of which could have huge consequences for the estimated 65 million people worldwide who use a wheelchair² *and* for the global economy.

The survey, involving wheelchair users across five countries around the world (UK, US, Japan, India and Brazil), found that **around two out of five wheelchair users polled say that they have been unable to work as a result of using a mobility device (39%)**. This figure rises to more than half (54%) of wheelchair users in the UK.

The survey was commissioned in order to better understand the day-to-day experiences of wheelchair users as part of Toyota Mobility Foundation's **Mobility Unlimited Challenge**. This \$4 million dollar global challenge aims to transform the lives of people with lower-limb paralysis around the world by encouraging innovators to create urgently needed, game-changing technology. Three in ten wheelchair users polled said they had experienced frustration because the design of their current mobility device felt outdated.

The survey found **that nine out of ten wheelchair users said they had experienced negative consequences as a result of using a wheelchair or mobility device** when working or job hunting (89%). **Three in ten of those surveyed said they felt their talent had been wasted (29%);** while a similar proportion said they felt they had been held back in their career

¹ ComRes surveyed 575 wheelchair users* online in the UK, US, India, Brazil and Japan between 9th and 26th March 2018. ComRes is a member of the British Polling Council and abides by its rules. Results can be found on the ComRes website.

*Currently using a wheelchair/mobility device or have used one in the last 5 years for at least 6 months.

² <http://www.who.int/disabilities/publications/technology/wheelchairguidelines/en/>

(28%); and around a quarter say that they'd been given less responsibility at work as a result of using a wheelchair or mobility device.

August de los Reyes, former Head of Design at Pinterest and Xbox, said: "I cannot imagine how my career path would have changed if the challenges I face in the workplace today had occurred early in my career. Of the various challenges highlighted from the survey results, commercial travel and transportation is still fraught with accommodating those of us in power wheelchairs. As a designer, much of my work involves directly engaging with people who use the offerings we design. Given the global reach of technology, traveling the world to meet the customers we serve is vital to design meaningful products and services. The lack of accessible transportation hinders the invaluable direct contact needed to inform and humanize technologies that billions around the globe experience in their daily lives. While my experience centers around design and technology, it is my hope that urgent innovation will avail people with ability differences, regardless of profession or personal interest, to travel easily and enjoy the outcome of direct engagement with the worldwide communities whom we serve."

The Mobility Unlimited Challenge aims to address these issues uncovered by the survey through **rewarding the development of personal mobility devices incorporating intelligent systems**. Solutions of the future could include anything **from exoskeletons to artificial intelligence and smart technologies**. These solutions would not only have enormous benefits for individual users, as well as society as a whole.

Ryan Klem, Director of Programs for Toyota Mobility Foundation commented: "With potentially millions of people around the world unable to work or be as productive due to their current mobility devices, there are clear social and economic implications which highlight the urgent need for innovation in the field of assistive technology.

"When people are free to move, they can broaden their horizons and fully realize their potential. Improving mobility is critical to creating an inclusive society. That's why we've spoken to wheelchair users around the world to understand the issues they face and what they want created³ and why we have incorporated the element of co-creation between innovators and end-users into the Challenge requirements. We are now calling for engineers and designers to step up to the Challenge. We hope the devices created will help improve employment opportunities and job prospects of those in wheelchairs, but this isn't just an issue that affects wheelchair users; a better, fairer and more productive society benefits everyone."

³ The survey explored the kinds of improvements that would be most helpful to users. The top five suggestions were devices that allowed wheelchair users to:

- move around faster (41%)
- perform regular day to day tasks more easily (37%)
- feel more relaxed & comfortable with a device that feels more natural and like an extension of themselves (37%)
- feel more confident and able to socialize and meet with friends (34%)
- feel a sense of spontaneity, freedom and independence (32%)

A third of wheelchair users in the survey said that using a wheelchair or mobility device had limited the jobs they could apply for (34%). A fifth said they have had to become self-employed (21%), while nearly a third stated that they had to work from home (31%) as a result of using a wheelchair, rising to around two out of five in India (44%) and Brazil (40%).

Charlotte Macken of Nesta’s Challenge Prize Centre, said: "What these figures show is that rather than society adapting to meet the needs of people with limited mobility, those individuals are having to adapt how they work. We hope this Challenge will change this situation and result in technologies that will open up new opportunities for people with limited mobility and unlock the potential of the millions of people around the world who use wheelchairs. New, innovative technological solutions can benefit the whole of society."

Entries for the Mobility Unlimited Challenge close on August 15, 2018. Five finalist teams will receive a \$500,000 development grant in January 2019 and the winner of the \$1 million final prize will be announced in Tokyo in 2020. **For more information please visit mobilityunlimited.org**

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Notes to Editors

Methodology: ComRes surveyed 575 wheelchair users* online in the UK, US, India, Brazil and Japan between 9th and 26th March 2018, with 105 of those in the UK. ComRes is a member of the British Polling Council and abides by its rules. Results can be found [here](#).

*Currently using a wheelchair/mobility device or have used one in the last 5 years for at least 6 months.

How the countries compare:

Which, if any, of the following have you experienced as a result of using a wheelchair or mobility device while working or job hunting?	Ave. +/- 3%	UK +/- 10%	US +/- 10%	India +/- 10%	Brazil +/- 10%	Japan +/- 10%
Been unable to work	39%	54%	36%	37%	37%	33%
Limited the sorts of jobs I could apply for	34%	29%	28%	43%	41%	26%
Had to work from home	31%	26%	26%	44%	40%	18%
Had to reduce working day hours due to challenges in getting out and about	30%	16%	27%	40%	45%	20%
Felt less independent at work	29%	29%	28%	37%	39%	12%
Felt my talent has been wasted	29%	28%	27%	37%	33%	18%
Felt held back from progressing in my career	28%	21%	23%	37%	38%	20%
Been giving less responsibility at work	26%	15%	20%	44%	33%	17%
Had to become self-employed	21%	15%	24%	26%	29%	10%
Net experienced any of the negative consequences listed as a result of using a wheelchair or mobility device while working or job hunting	89%	93%	92%	92%	92%	77%
Using a wheelchair or mobility device has not negatively affected me while working or job hunting	4%	2%	3%	5%	4%	4%

About the Mobility Unlimited Challenge Prize

The Challenge prize is a tried and tested method for supporting innovation. It offers a reward to whoever can first or most effectively meet a defined challenge. Challenge prizes are effective tools for:

- Spurring and supporting innovative solutions
- Overcoming market failure
- Widening the pool of innovators, prompting collaboration
- Creating new markets
- Raising awareness

How the \$4 million will be used

The Toyota Mobility Foundation Challenge \$4m prize pot will be used as follows:

- Discovery Awards (already completed) - 10 awards of \$50,000 (*combined total: \$500,000*)
Means-tested grants to support small, early stage innovators to enter the Challenge.
- Finalist Grants - five awards of \$500,000 (*combined total: \$2,500,000*)
Grants given to 5 finalists to spend during the Finalist Stage to develop their prototype device. Finalists will be selected from the eligible entries on the basis of their ability to meet the eligibility criteria requirements and their potential against the judging criteria.
- Winner's Award - one award of \$1m (*combined total: \$1,000,000*)
Grant awarded to the finalist whose prototype device best meets the challenge statement, demonstrating how it meets the judging criteria.

About Toyota Mobility Foundation

- The Toyota Mobility Foundation was formed by Toyota in 2014 with the aim of creating a truly mobile society that will help people live better lives no matter where they are.
- The Foundation aims to support strong mobility systems while eliminating disparities in mobility.
- The Toyota Mobility Foundation works to provide innovative mobility solutions across the globe, from traffic calming in the world's busiest cities to hydrogen energy solutions.
- The mission of the Toyota Mobility Foundation is to enable more people to go more places by sharing knowledge, partnering with others and using their innovative spirit to build a more joyful mobile society.
- It utilizes Toyota's expertise in technology, safety, and the environment, working in partnership with universities, government, non-profit organizations, research institutions and other organizations to address mobility issues around the world.

About Nesta's Challenge Prize Centre

Nesta is a global innovation foundation, and its Challenge Prize Centre is an internationally renowned center of expertise in the design and development of challenge prizes for societal impact.

The Challenge Prize Centre uses prizes to stimulate innovative solutions to some of the biggest challenges we face, including:

- The Longitude Prize, created to tackle growing levels of antimicrobial resistance and reduce the use of antibiotics.
- The Inclusive Technology Prize, a challenge prize to encourage innovations that gives disabled people equal access to life's opportunities.
- The UNDP's Renewable Energy Challenge Prize, to find a renewable energy solution capable of providing off-grid power to cover the needs of war-returnee families in rural Bosnia and Herzegovina.
- The Dynamic Demand Challenge Prize, created to reduce carbon emissions by shifting energy demand to off peak times or through excess renewable generation.

To find out more visit <http://challengeprizecentre.org/>