

# *DEMAND*

*Design & Manufacture for Disability*



**Helping disabled people  
live life their way**

# Why we're here

We believe in the power of great design

We're here to help people overcome barriers to inclusion, participation and independence using the power of design and engineering.

We help disabled people, their caregivers and families overcome challenges with personal care, accessing education and employment, social isolation, to regain skills after life-changing injuries and to engage in therapy, sports and leisure activities.

There are more than 13 million\* disabled people in the UK alone, and DEMAND is only reaching a fraction. **We need your help to make sure we're here for everyone who needs us.**

\* Being disabled in Britain – A journey less equal, Equality and Human Rights Commission 2017

Last year  
we helped  
**4360**  
people with our  
charitable work

We help people  
with any disability,  
injury or health condition  
of any age, from baby and  
toddler to teenager and  
throughout adulthood

The custom  
disability kit and  
adaptations we've  
made have been  
provided at no cost to  
the individuals who  
need them





Felix is now free to play whatever game he chooses! Find out more on page 9



‘Having the treadmill and handles, and being able to use it at her age, will just open up the world to her’ – Darcey’s Grandma Kim



We’re helping Laura and baby Evie to find ways to overcome the challenges of their new life together – Find out more on page 11

Read on to see stories from more people who have been empowered to live life their way



# How we help

All our work has a positive impact on disabled people's lives



## Advising on equipment

Our team are on hand to offer recommendations and expert advice on disability equipment that's available to buy.

Call 01923 681800



## Designing custom equipment

We design and manufacture kit that helps people overcome challenges when there is nothing available to buy.

See more on pages 5-12



## Adapting existing kit

Everyone is different and has different needs, so we tailor and adapt people's own kit to make it work better for them.

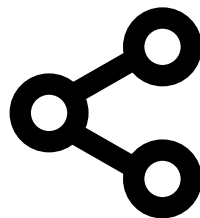
See more on page 12



### Educating designers

We encourage young designers and engineers to engage with design for disability and work towards a more inclusive world.

[See more on page 13](#)



### Sharing and collaborating

We share our designs and are growing a creative community of designers and makers so we can help even more people.

[See more on page 15](#)



### Manufacturing equipment

We develop specialist disability products that wouldn't otherwise be available and invest in bringing them to market.

[See DEMANDEquipment.com](https://www.demandequipment.com)

# Music to our ears

Helping people do what they love is what we love most

38 year old JJ has joint hypermobility syndrome, which leaves him in constant pain and scarcely able to leave his bed. He loves music, in particular composing contemporary instrumental piano arrangements, but his condition means he hasn't been able to enjoy his passion for music for some time. For JJ, playing the piano is a valuable therapy as well as an enjoyable pastime, so our engineers designed a custom cantilever table that holds a keyboard above JJ's bed and allows him to play comfortably. Now he's back in the swing!

Often withdrawn and seldom venturing outside, Xander, who has severe learning difficulties, had outgrown his beloved push car.

His mum couldn't find anything else that had the same transformative effect for her son. Xander's car is essential for his wellbeing, mobility and development, and is far more than just a toy. He simply hasn't shown an interest in anything else like this before. Our team created a supersized car so Xander can enjoy spending time outdoors in the safe space of his 'Big Little Car' for years to come.

Lucy is 13 years old and has cerebral palsy. She needs to use a wheelchair to get around but she longed to race her brother in a trike like his! Some custom modifications made Lucy's trike safe for her to use, and with a handle for mum to steer, Lucy is racing away!





‘Thank you so much for understanding my needs and helping me to play my piano again with a great piece of engineering. I am now looking forward to regularly playing and composing’ - JJ



Xander's car is a safe and special place from which he engages with the outside world



Lucy is enjoying the park now that she is able to join in the race with her brother!

# Helping one, helping many

How we design for one individual and help many more



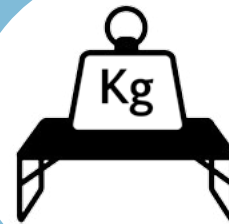
## Discovering

When someone with a challenge gets in touch, our expert team work to fully understand their situation and identify the best solution to help overcome their challenge.



## Designing

With a full understanding of the individual's needs following a home assessment, we can begin the design process. We typically have around 40 live projects at any time.



## Testing

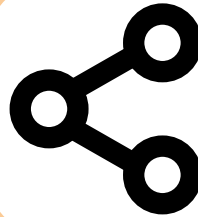
The user is always at the heart of our process. We test prototypes and gain user feedback to ensure that our products fully meet the design brief and are safe to use.





### Delivering

After thorough testing, the final product is delivered. It may be used for many years and continue to help someone to overcome a unique challenge they face.



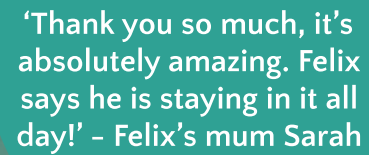
### Sharing designs

By sharing digital design files online we can maximise the impact of our work and make a design for one help many more people, wherever they are in the world.



### Sharing stories

Sharing our stories helps more people to understand the possibilities that a custom design can offer, raises awareness of our work and helps us find new supporters.



# Finding fun for Felix

A unique play table has opened up Felix's world

**Felix** is 5 years old and has an undiagnosed life-limiting neurological condition. Felix's mum Sarah got in touch with DEMAND with an idea that would help Felix to access the toys he loves to play with. Our designers visited Felix at home to discover how Sarah's idea of a rotating table could be made real.

Felix is dependent on his mum more than many children his age. He uses a wheelchair but can't get around independently, so mum brings toys to Felix, rather than him seeking out activities he wants to do.

Free play is a staple of primary school classrooms for a reason. Children stretch

their imagination, learn decision making and practice social interactions they will use in day to day life. Giving Felix the freedom to choose between toys, simply by turning the tabletop, is one of the first opportunities he has had to make truly independent choices.

Complex engineering projects like Felix's can take many months to perfect; prototyping and testing until the equipment is exactly right, and can cost upwards of £7,000. Without essential donations like those from the De Brye Charitable Trust our work would simply not be possible.

**Go online to [DEMAND.org.uk/our-stories](https://demand.org.uk/our-stories) to see more of our happy customers!**

# Tackling life's everyday challenges

Creative solutions helping people get on with their lives



**Laura** is a new mum and a wheelchair user. She has spina bifida and was keen to find ways to tackle her new parenting challenges independently – including nappy changing! We visited Laura at home to fully understand her needs and agreed with her that a powered, height adjustable changing table, that could be manoeuvred around the house easily, would be a perfect solution. Our designers even added a neat storage unit so Laura will always have the essentials on hand. She is thrilled with the result.

‘Whilst I am able to change Evie’s nappy on my bed and on the floor, the table enabled me to change her from my wheelchair which

was very important in the early days. I had a caesarean section and for a while I couldn’t get down on the floor at all and it was tricky transferring onto my bed every time she needed changing.’


‘I am confident that I can overcome all of the physical challenges caring for a baby (and soon a toddler!) will bring me’ – Laura





Custom chair handles have made trips more comfortable for Dan and all his carers.

'Dan's chair is now enabling him! We all have our smiles back!'  
- Dan's mum Sam



Max is gaining independence with a set of custom made bath steps he can use at last



42 year old Paul can be cared for in comfort and with dignity using a custom made height adjustable base for his shower chair

**64%**  
of our custom equipment projects help people overcome challenges with their everyday lives

# Disability designers of tomorrow

## Placement students and apprentices learning our trade

Our versatile workshops are fantastic places to nurture the engineering and design talent of the future.

Each year we welcome product design and engineering students onto our **student placement programme** where they get a unique hands-on experience. Students gain first hand insight into our user-led design process and are guided through the process from enquiry and discovery to production and delivery. By the end of a placement with us, students are able to manage their own projects, designing complete solutions having selected appropriate materials and manufacturing techniques.

We believe our hands-on **apprenticeship programme** is the only opportunity in Europe (or maybe even the world!) for young people to learn how to make disability equipment. In the long run we hope our initiative keeps fast dwindling engineering skills from disappearing altogether and plays a positive role in maintaining the manufacture of high quality assistive products in the UK.

**Could you help a young person gain this unique insight? We are looking for an education sponsor to help continue our student placement and unique apprenticeship programme. Get in touch to find out more.**





‘Working at DEMAND I get to see projects through from start to finish and I am involved through all the processes’ - Oliver: Product Design student at Nottingham Trent University

‘The most important thing I’ve learnt at DEMAND is how to design for manufacture. Now I know the things I design can be easily manufactured’ - Elle: Product Design student at Loughborough University



James: Product Design student at Nottingham Trent University



‘I recently adapted a treadmill with lower handles to help a young girl learn to walk. It made me realise how much our work here helps to improve people’s quality of life’ - Morgan: Engineering Apprentice with Oaklands College



Shakeel: Engineering Apprentice with Kirkdale Industrial Training Services (KITS)





Our tutorial shows how to use a toy car to make a child-friendly assistive pen holder - write on!

A parent shared their DIY idea that makes sure her daughter is safe at night; a bed guard made from affordable baby gates



Hasan's design for a 3-wheel converter kit makes a wheelchair more comfortable to use on uneven terrain



*CrackedIt!*



Our tutorial shows how to use household items to make a straw holder and give independence to someone who is unable to grip and lift a cup



# Harnessing creativity for good

How Cracked-it is empowering people through open source design

As our online community grows all manner of creative ideas and open-source designs are being published online that anyone in the world can access for free.

We're sharing digital files for our own designs that can be manufactured in a makerspace using a 3D printer, CNC router or other digital manufacturing techniques, made at home or in a local workshop.

For disabled people in many parts of the world, obtaining suitable disability aids isn't as simple as ordering online or visiting the local mobility shop. Having the ability to access open-source designs is a whole new way to

make sure essential assistive technologies are available to anyone who needs them.

In 2016 we created video tutorials that demonstrate assistive 'life hacks' - ideas to make life easier, such as using a toy car to make an easy-to-grip pen holder and help a child develop their fine motor skills.

To continue growing our community, we need to dedicate time to documenting and sharing the designs we create in our workshops every day and make more design files and easy-to-follow tutorials freely available online.

[Join our creative community at Cracked-it.org](https://cracked-it.org)

# The big picture

## Our work has untold benefits in the long run

We provide tools that enable people to live life their way. With adequate support, people with even the most severe disabilities can lead comfortable and fulfilled lives.

Our equipment helps people to access education, enables people to learn and expand their skills, and creates opportunities to be included rather than excluded. All the while our work is led wholly by the needs of individuals and groups of individuals.

For the people we help, like **Shaun** (pictured opposite), the impact of the custom solution we provide is far more valuable than the cost it takes to design and make it.

In 2016 our custom designs and adaptations have:

Facilitated independence

Promoted engagement in sport

Enabled inclusion and equality

Reduced risk of injury

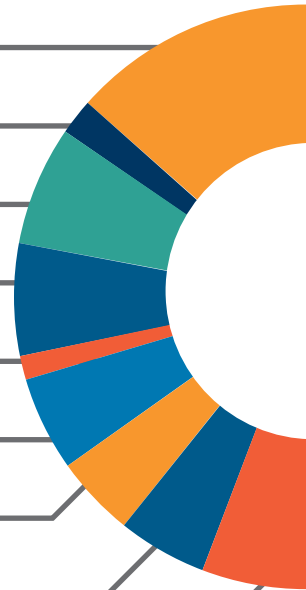
Provided access to therapy

Reduced dependency on carers

Created increased comfort

Provided access to education

Reduced social isolation



Gradual worsening of **Shaun**'s health due to a rare form of brittle bone disease has left him unable to drive or even transfer safely to a car. A transfer bench specially designed by our team means that Shaun can use any taxi, be it wheelchair accessible or not, and once again travel in friends' or family members' cars; a necessity given the lack of community transport in his area.

Investing our skills, time and materials to design a transfer bench to suit Shaun's needs cost £2,500. The alternative may have meant spending upwards of £15,000 on a wheelchair accessible vehicle and needing to employ a driver, being at risk of injury from transferring to a car unsafely and possibly needing emergency hospital treatment, altogether resulting in a potential cost of tens of thousands of pounds to Shaun and the taxpayer.

Having a safe and suitable way to transfer to a car means Shaun is no longer left stranded in his own home. He can now enjoy an active social life, attend medical appointments, benefit from improved job prospects and overall improved wellbeing.



'Your invention is working fantastically and I've certainly been making up for lost time' - Shaun



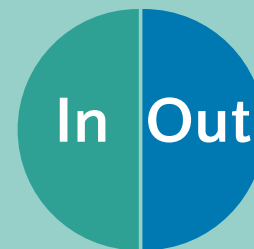


# 2016 in numbers

## The in's and out's of our life enhancing work

We work hard to squeeze every ounce of goodness from every penny we generate or have donated to us. We receive no government grants and we rely on donations to continue our life enhancing work.

Even as we make efficiencies, investing in modern manufacturing methods which save us time and money, it is becoming harder in today's uncertain fundraising environment to continue our work. The more we raise, the more people we can help and the more good we can do. Here's just some of the things we achieved in 2016 thanks to your support, and what went into making that happen.



**13,000 mugs of tea and coffee**



**Enough plywood to cover 5 squash courts**



**28,000 hours of design & manufacture**



**£180,000 generated by ourselves**



**£553,000 from voluntary income**





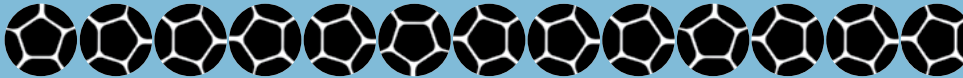
154 life enhancing custom designs and adaptations



Upwards of £2,000,000 saved providing refurbished equipment for children



132 people given the opportunity to enjoy playing boccia



55 future designers and engineers educated in design for disability



Enough costs saved using our new CNC router to pay for itself 3½ times over



4360 people who have positively benefited from our work



# Looking forward

What we're doing to help even more



## Co-operation

We are using our connections and expertise to help more people directly through collaborations with designers, engineers and makers everywhere and virtually by creating open source designs to help others help themselves and other people.



## Cutting edge

We're investing in people and cutting edge technologies that improve our ability to offer increasingly advanced solutions which help people overcome barriers to inclusion, participation and independence.



## Community

We have always provided a service to anyone in need without prejudice and continue to explore ways to engage with the wider community. We have excellent facilities and a great deal of skill and experience which we share for wider social benefit.



## Champions

We champion the need for better design for all. We do this by encouraging and nurturing design and engineering talent to work for social good. Education has always been a cornerstone of DEMAND's work and we will continue to give young people setting out on their careers a unique insight into, and practical experience of, design and manufacture for disability through work experience, student placements, design briefs and events.



# How you can help

Lives are ready to be transformed with your support

**Spread the word** and make sure people know DEMAND is here should they need us. Join us on Facebook or Twitter (@DEMANDcharity) and show your support with a share!

**Support our events**; book tickets for fundraising events and find out about sponsorship opportunities at [DEMAND.org.uk](https://DEMAND.org.uk)

**Leave a gift** in your will and ensure DEMAND can continue to help people for many years to come. Get in touch to find out more.

**Fundraise for DEMAND** and help transform life for even more disabled people!

**Sponsor a project** and do something great for your local community. Get in touch to find out what we're working on in your area.

## **Change a life with a donation**

We're a charity, so the more you help us, the more help we can give! You can make a donation in the following ways:

**Go to [DEMAND.org.uk/donate](https://DEMAND.org.uk/donate)** to give a monthly or one-off gift via card or PayPal.

**Send a cheque** along with the form overleaf to add Gift Aid to your donation.

**Set up a bank transfer or standing order** email [info@DEMAND.org.uk](mailto:info@DEMAND.org.uk) or call us on 01923 681800 for details.





Today we help  
**10 times  
more**  
people with your  
donations than in 2005

For every £1 we spend  
on fundraising, we raise

**£4.88**

which is 70% more than  
the UK average\*

\*Fundratios 2014

# Change a life today

Give a one-off or monthly donation  
online at [DEMAND.org.uk/donate](https://demand.org.uk/donate)

Alternatively, you can donate with a cheque made payable to DEMAND, using this form if you'd like to add Gift Aid and make every £1 you give worth an extra 25p at no cost to you.

*giftaid it*

☐ I would like to Gift Aid my donation. I am a UK taxpayer and understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference.

☐ I'd like to hear about news, exciting fundraising events and stories from the people my donations help in an occasional email newsletter.

DEMAND Design & Manufacture for Disability  
The Old Chapel  
Mallard Road  
Abbots Langley  
Hertfordshire  
WD5 0GQ

Full name \_\_\_\_\_

Email \_\_\_\_\_

Home  
Address \_\_\_\_\_  
\_\_\_\_\_

Postcode \_\_\_\_\_

Signature \_\_\_\_\_





# Our Thanks

A note to close from our Chair

Over the past 2 years we have been working hard to modernise the operation, to extend our reach and to help more people; nearly 4,500 people in the past 12 months alone. Whilst we celebrate our achievements we are even more excited about the future and our plans to benefit a wider community through a broader service offering.

Our work of creating enabling equipment which helps people to overcome barriers to inclusion, participation and independence continues apace and none of it would be possible without your wonderful support for

which I heartily thank you. Much of what we do needs to be seen to be fully appreciated so please come and see us. A warm welcome is guaranteed.

A handwritten signature in blue ink, appearing to read 'Russell Willcox'.

Russell Willcox – Chair of Trustees

Thanks to our Chair Russell Willcox, along with our team of Trustees:

Lady Hermione Grimston	Thomas Mercer
The Hon. Clare Renton	Robert Mankin
Anthony Soothill	William Sietz
Katherine White	Morag Reavley



Call us on 01923 681800  
or email [info@DEMAND.org.uk](mailto:info@DEMAND.org.uk)

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a donation today at  
[DEMAND.org.uk](http://DEMAND.org.uk)



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