

**DEMAND**

*Design & Manufacture for Disability*

Helping people  
with disabilities  
to live life  
their way

DEMAND

Design & Manufacture for Disability

**Annual Review 2014**

Registered Charity No. 1008128



# Who we are

DEMAND is a charity with engineering centres in Hertfordshire and Yorkshire dedicated to improving the lives of people with disabilities. Our clients span all ages and their disabilities range across all spectrums, often affecting mobility, communication and independence which most of us take for granted.

# What we do

Our highly skilled team make, modify, repurpose and refurbish equipment which gives people living with disabilities greater independence, comfort and confidence, thereby opening up previously inaccessible opportunities and enabling them to live their life their way, better.



16%  
of beneficiaries  
are aged  
65+



This year we've helped

3767 people

26%  
of our clients have severe  
learning difficulties



50%  
of our projects  
are for  
everyday  
needs

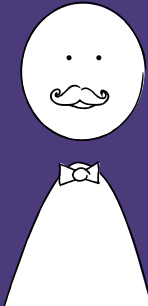
# Why we do it

The people we work with often find that the equipment they need does not exist, is not readily available or, more often than not, just does not work well for them. Not having the right tools and equipment in any situation is highly disabling so we apply our creative skills to providing our clients with exactly what they need, whether by modifying what they already have, ingeniously repurposing equipment or designing and making from scratch.

# How we do it

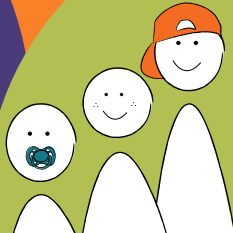
We assess every situation on its merits. This means understanding clients' unique environments, their challenges, potential risks and most importantly what outcomes they desire. Keeping the end user at the centre of the creative process means the solution we develop together really will improve daily living, enable access to life enhancing opportunities or facilitate or augment essential therapy.

55%  
of our  
clients are  
male

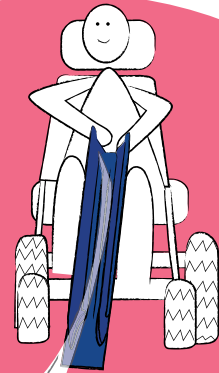


22%  
of our clients have  
multiple disabilities

45%  
of beneficiaries  
are aged between  
11-18



690



people have  
benefitted from our  
Boccia ramps

# Into our 35th Year

Roger Jefcoate CBE DL, DEMAND patron

As an active patron, I once again take pleasure in congratulating DEMAND on another successful and productive year. For 35 years, DEMAND's technical skills, supported by a strong organisational base, have given thousands of people with disabilities, their carers and families innovative solutions to an enormously wide range of everyday living challenges as well as enabling access to life enhancing work, leisure and social opportunities. DEMAND really does help people live life their way.

The barriers disabled people have to overcome if they are to participate in society, on equal terms, are becoming higher still in the face of wide ranging health and welfare changes. The role organisations like DEMAND play in creating a more egalitarian society will undoubtedly become more important over the coming years.

I warmly commend DEMAND to you for your generous support.



Take a look at page 10 to see how Susan makes herself a cup of tea, or look at page 17 to see how Samuel's trumpet stand has changed his life.



Or check out how we helped Abu from Bangladesh on page 18

## Russell Willcox, Chair of Trustees

As we look forward to our 35th anniversary in 2015 it is a good time to reflect on what we have achieved and what we are striving for in the coming years. In his message, Roger Jefcoate highlights the challenges people with disabilities have in participating fully in society. The trustees believe that DEMAND has an even greater contribution to make in addressing those challenges and so we are united in our desire to extend our reach and broaden our offering.

Our five-year plan will see us do a great deal more of our core work of equipment design, manufacture, refurbishment and modification; pay homage to our origins with the development of resources aimed at educating designers, engineers and makers on inclusive and adaptive design; develop our student and apprentice programmes; and become the heart of a virtual community dedicated to providing and sharing practical solutions for people with disabilities wherever they are in the world.

The modest reserves we have built up over the past two years will help us fund some of our planned initiatives but there is a £250,000 a year gap to bridge to ensure we deliver the increased levels of impact we know we can achieve.

More than ever, your donations, your support of our fundraising events, the provision of materials and services and the donation of time which help us remain slim, agile, and effective are hugely important. My unqualified thanks go to all who contributed so generously in 2014.

I will also take this opportunity to congratulate one of our most active patrons, Dame Esther Rantzen, on the award of DBE in recognition for her services to children and older people and to express our gratitude for her continued support.

What we do needs to be seen to be fully appreciated, so I extend a warm welcome to you to visit our engineering centres to meet the team and to see us in action.

We look forward to welcoming you.



# A simple process which makes a huge difference

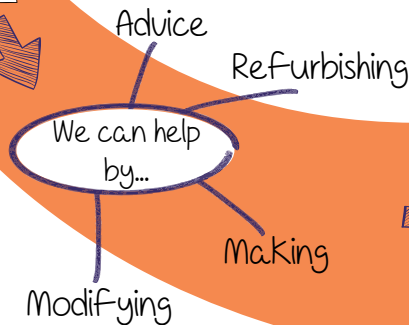


All our projects are centred around a person who would benefit from a piece of equipment which helps them do something. The need is often identified by the client themselves, a family member or a health professional. We provide a signposting service to help people find ready made solutions but sometimes a more bespoke solution is called for.

## Initial Assessment



We always meet the client in person to get a deeper understanding of their challenge, their living or working environment and the changes they want to realise. Only then do we get our heads together to work out how best to give them the result they seek.

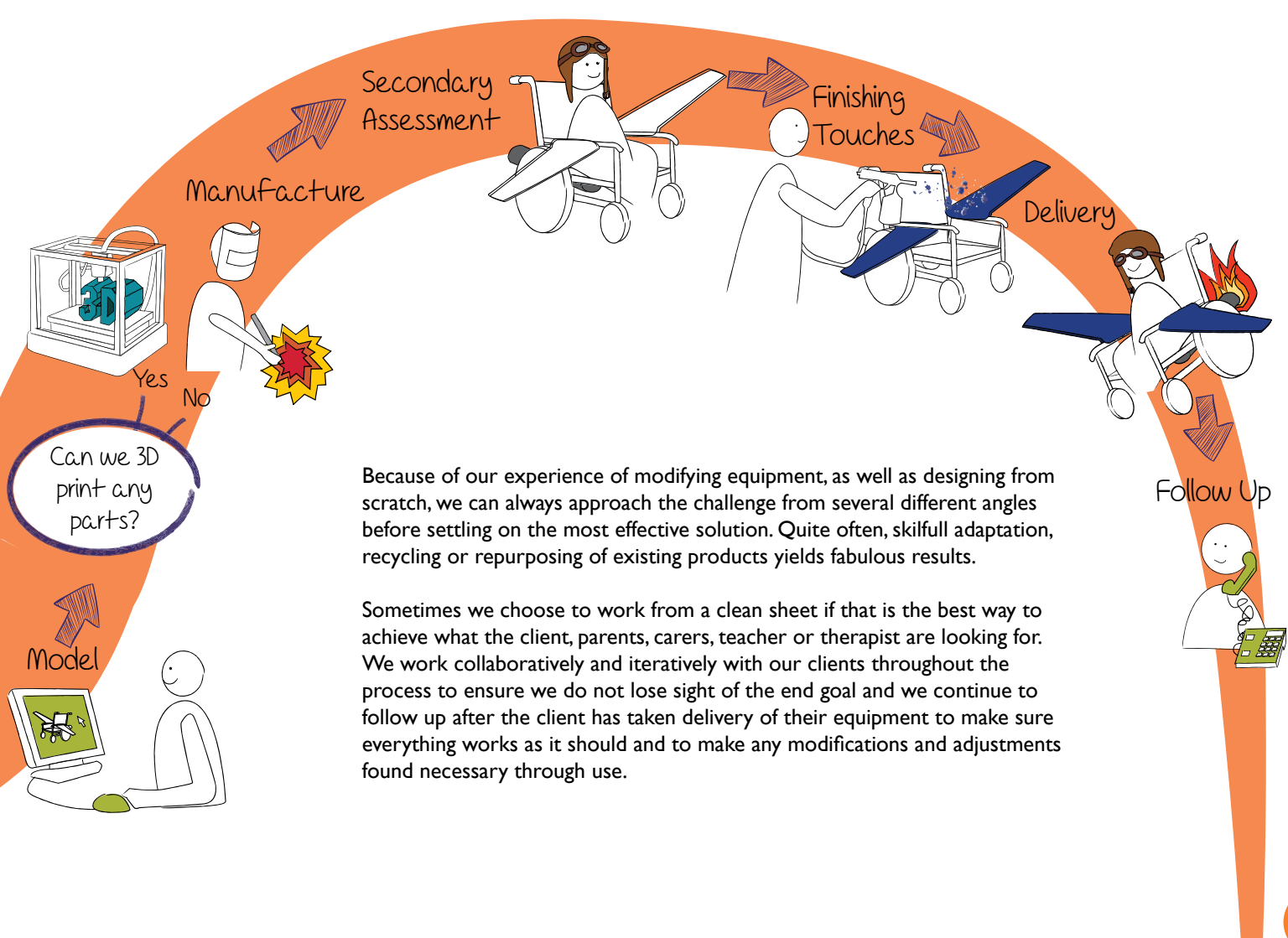


## Primary Research



## Sketch





Because of our experience of modifying equipment, as well as designing from scratch, we can always approach the challenge from several different angles before settling on the most effective solution. Quite often, skilfull adaptation, recycling or repurposing of existing products yields fabulous results.

Sometimes we choose to work from a clean sheet if that is the best way to achieve what the client, parents, carers, teacher or therapist are looking for. We work collaboratively and iteratively with our clients throughout the process to ensure we do not lose sight of the end goal and we continue to follow up after the client has taken delivery of their equipment to make sure everything works as it should and to make any modifications and adjustments found necessary through use.

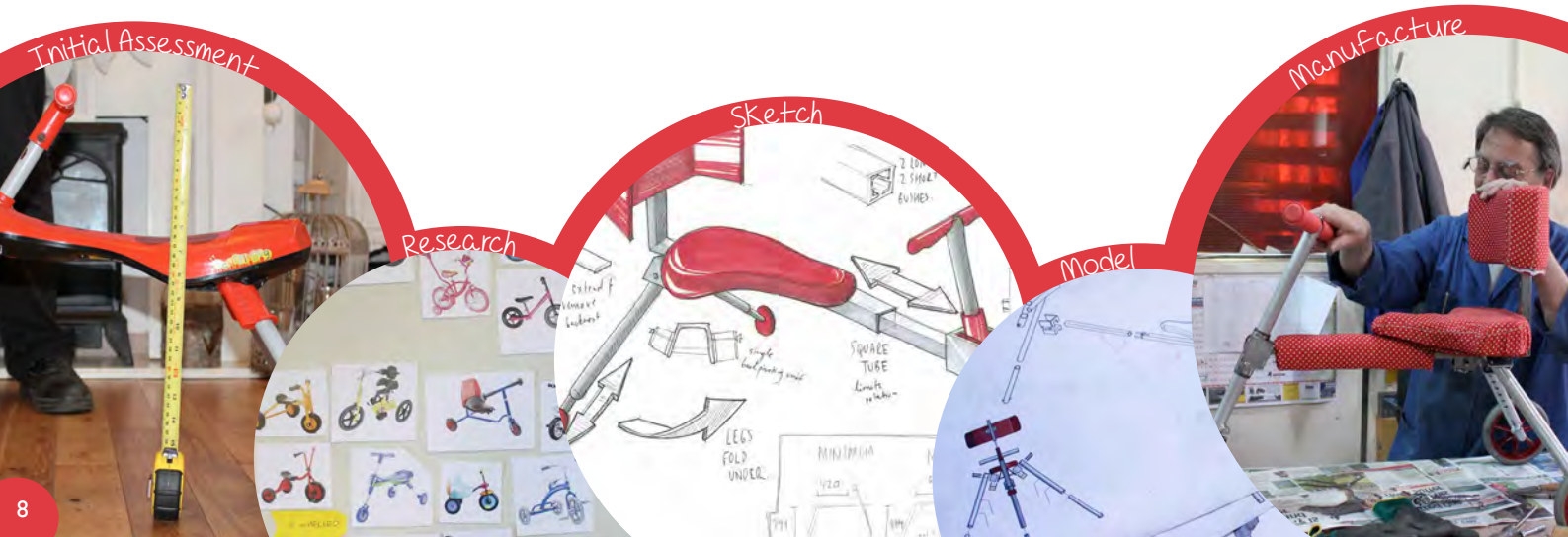
# Summer's Story

Her process with DEMAND

At the age of two Summer was diagnosed with the rare neurological disorder called Rett syndrome, a condition which can cause severe physical and mental disability. Summer cannot walk and her only way of getting around and keeping well was by using a Scuttlebug tricycle which she was given when she was a toddler. The Scuttlebug did a good job of preventing the worsening of her condition but unfortunately, as she got older, she outgrew it and Mum and Dad were unable to find a suitable replacement. They contacted DEMAND in the hope that we would be able to make

a trike, tailored to Summer and which would delay, for as long as possible, the need for Summer to use a wheelchair.

We designed a foldable trike especially for Summer, which is cleverly designed to grow with her. Now she is able to get around independently as much as she likes without the need for a wheelchair whilst at the same time getting plenty of exercise which strengthens her back, preventing curvature to the spine.







Dad, James, fills in some of the story

“Summer was given a Scuttlebug bike before we knew she had Rett Syndrome. Despite the fact that she never had the inclination to crawl, bum shuffle etc. we found that she could scoot about on this Scuttlebug. As time went by and we knew she would not walk, this was her mobility, her legs if you like. When she was four, she was obviously too big for the Scuttlebug, despite homemade adaptations so we were desperate for a bigger replacement to keep her mobile.

We were advised to contact DEMAND and they made Summer her own trike. It now keeps her mobile, her back is still straight and mothers of other girls with Rett Syndrome have commented on this. We hope she will get another couple of years of mobility out of it before we have to look at something else.”

“It is her lifeline. She can't walk or talk, but she takes it everywhere.”

# Independence

Enabling people to do things their way

Living with a disability can restrict a person's independence because they are often unable to complete common everyday tasks without help.

Take Susan, a confident, independent woman who likes to do things her way. Susan has a severe and persistent tremor which often stopped her from making her own hot drink. Hot water presented no problem as she has a special kettle but she often needed someone else to pour milk and finish making the drink. We designed an unique mug holder and milk dispenser which allows her to squeeze the milk into her tea, avoiding messy spillage and the need for assistance.

Betty suffers with a range of mobility issues. When her new sofa was delivered she was disappointed to find that she could not get up from it without assistance. DEMAND's solution was to design a bespoke frame to fit the sofa, adding exactly the right amount of extra height to allow her to get up independently. A clever mechanism incorporated into the design also allows her to move the heavy sofa by herself whenever she needs to.

**Susan**, Project: Mug and milk holder



"I'm thrilled to bits. Where else could I have gone? I don't know what I would've done if I hadn't found DEMAND. I'm so pleased"

Betty

**Betty**, Project: Sofa raiser





### **Stephen, Project: Dining chair**

Stephen has brittle bone disease which means his independence is greatly reduced as, to prevent injury, he has to rely on his parents helping him with day to day tasks. Stephen's Occupational Therapist originally contacted DEMAND because he was at risk of injury from the rigid arms of his dining chair when getting in and out. To stop this from happening, we modified the chair's arms so that they could rotate up and out of the way, allowing Stephen to get in and out of the chair by himself. To improve his independence even further we incorporated a neat, easy to operate mechanism which allowed Stephen to move his chair closer to, and away from, the table without assistance.

'Before DEMAND helped, getting Stephen close enough to the dining table on his high chair was really hard. We had to try and push him forward towards the dining table, as that's the only way we could manage. There was always the risk of tipping him over. Now Stephen is able to pull himself into the table. The chair has 100% improved his independence as he uses the chair at least once or twice a day.'  
Stephen's Mum

# The simple things

Making day to day life that bit easier

Designing simple alterations to ease our client's problems can make a huge difference to their day to day lives.

A good example of this is Andy, the longest surviving person in Ireland with motor neurone disease. He contacted DEMAND to see if we could replace his mouth pointer because without it he was unable to communicate or complete some of his everyday jobs. We made improvements to his pointer, making it easier for Andy to use his computer and to connect with friends and family.

**Andy,** Project: Mouth pointer



Mr Chalkley came to us about his walker. The frame of his walker was too small for him and forced him to bend forward whilst walking which led to persistent and often excruciating back pain. We successfully modified the walker to suit his height and therefore greatly improve his posture. He no longer has to 'make do' and can walk and stand much more comfortably.

**Mr Chalkley,** Project: Walker modifications



**Wendy, Project: Straw holder**

Wendy has multiple sclerosis and when drinking she has to use two straws because she often chokes if she only uses one. She wanted to be able to drink independently without needing someone else to position the straws correctly. She had tried many ways to secure the straws, finally resorting to elastic bands which was still far from ideal. We devised a neat 3D printed, 2-straw holder which clips onto the rim of a range of cups and glasses. Wendy is now able to enjoy her drinks without the frustration of always having to have someone else there to position the straws for her.



# Getting out and about

Enjoying the outdoors

Having a disability can often restrict when, where and how you get about.

Take Cheryl, a proud mum who wants to be able to take her daughter out and about easily and safely. Cheryl has Neurovascular Dystrophy which means she uses a wheelchair. She was having great difficulty controlling her daughter's push chair as well as her own wheelchair. We designed and made an attachment which stabilises the pushchair and ensures that it goes exactly where Cheryl wants it to without fuss.

**Cheryl, Project: Wheelchair buggy attachment**

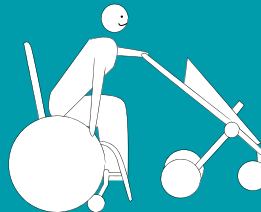


Arthur is a very active man with paraplegia. The risk of injury to his legs meant that he was being held back from pursuing his outdoor sporting passions. He already had a rough idea for a guard which would fit to his wheelchair and give him the protection he needed. We refined and developed his ideas and turned them into reality. His custom leg guard means he can confidently enjoy fishing and nature photography with much less risk of hurting himself.

**Arthur, Project: Leg guard**



Before





### **Orla, Project:** Exercise frame

Orla's climbing frame really was in a sorry state after being played on so much and it was no longer safe. Orla's Mum Nyree takes up the story.

"We are really pleased that DEMAND have built the specialist frame for Orla. She had a climbing frame in the garden but she quickly out-grew it, particularly with her strength, so it wasn't something that was suitable to use. She can go down to the park but she finds noisy situations very difficult to handle. So having one which is strong enough to take her weight and big enough for her to grow means she can let off steam and have fun in safety, in an environment she feels good in and is less likely to be upset by noisy crowds."

# Enjoying time out

Everyone has the right to participate in the things they love

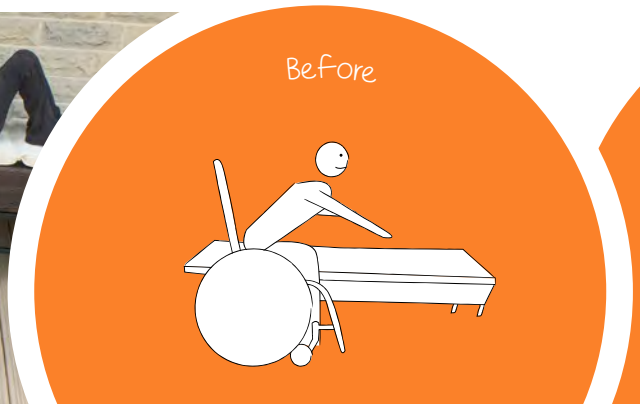
Imagine the disappointment when someone's condition changes and stops them from participating in the leisure activities they enjoy. This was true for Graham when a machining accident caused him to lose parts of his index and middle fingers. His ability to play bowls to his previously high standard was severely compromised. DEMAND crafted a glove with moulded inserts to replace his damaged fingers and configured in such a way as to vastly improve his grip and therefore the accuracy of his bowling action. Now Graham's back on top of his game.

Mrs. Organ, who has muscular dystrophy, initially contacted DEMAND because the footplates on her power chair were causing injury to her ankles. We re-engineered the footplates to flip up further than normal, eliminating the risk of injury and also enabling her to safely transfer to her bed and to chairs with ease. Whilst working with Mrs. Organ we also found that her favourite sun lounger was far too low for her. The solution; a custom base frame which raises the lounger to a safe and convenient height that matches her power chair.

**Graham, Project: Bowling glove**



**Mrs Organ, Project: Modified seating**





**Samuel, Project: Trumpet holder**

8 year old Samuel has hemiplegia; a condition which results in weakness and lack of control in one side of the body. After seeing DEMAND's video of trumpet-playing Leah, who also has hemiplegia, Samuel's mum contacted us to see if we could help him in a similar way. No sooner said than done! Samuel now has his own unique stand which allows him to concentrate on playing great music whilst the stand takes care of supporting his trumpet.

"The stand has been a big success. We get lots of people commenting on how clever an idea it is. Samuel uses his trumpet stand all the time. He is getting very good at playing the trumpet and plays in the Training Wind Band at our local concert."

Samuel's mum



# Helping people indirectly

Using our resources to best effect

## Abu, Project: Scoot seat

Abu is 8 and lives in Bangladesh. He does not have the use of his legs and his condition means that he is also unable to operate a wheelchair. We were approached to see if we could help improve Abu's mobility and independence. We designed a 'scoot seat' for him which features a brake that he operates with his upper body. Getting the scoot seat to Abu would, however, be a big challenge. Liaising through Gundula Stevens, a retired Occupational Therapist and very old friend of DEMAND, we did the design work and then provided engineering drawings and advice to local craftsmen who manufactured it. Abu is now able to get about by himself and there's no stopping him.

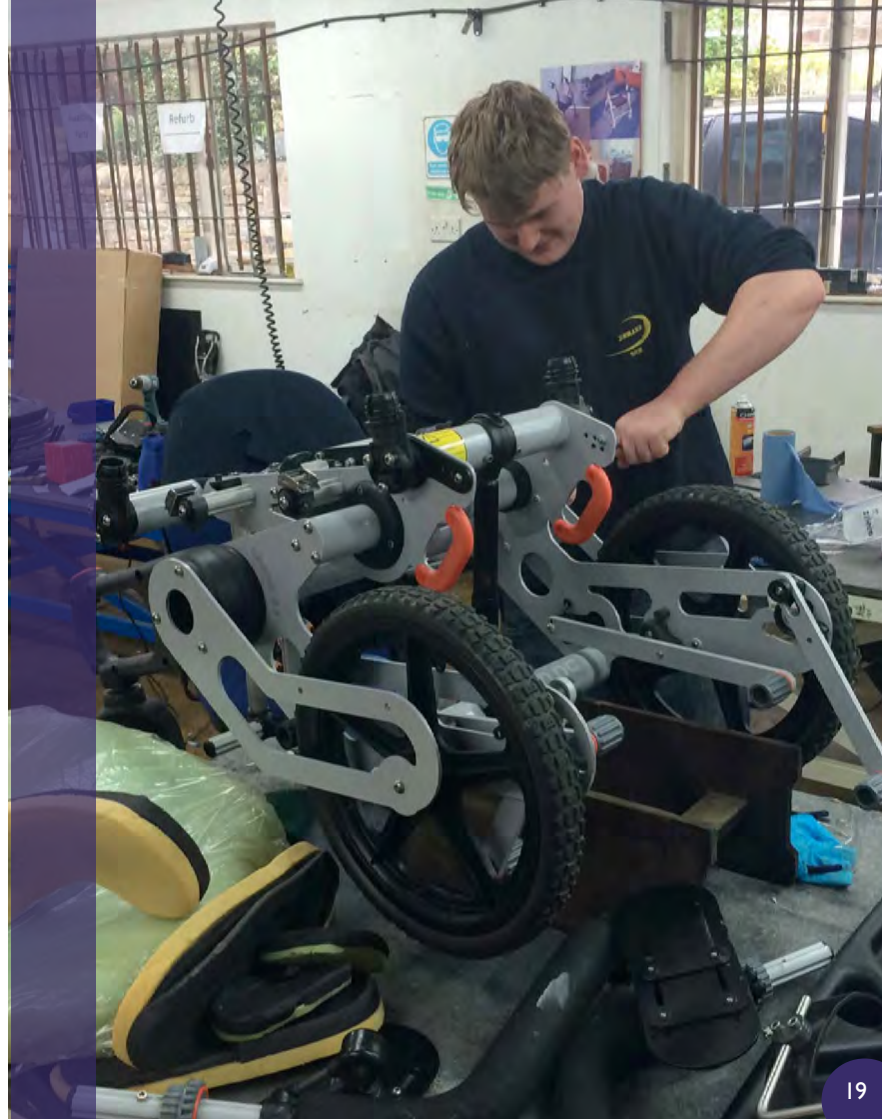


## ReFurbishment

Making a difference does not always entail designing and making things. We help many hundreds of people by making pre-loved and unwanted equipment available to others. Being an MHRA\* Class I manufacturer means we can also assist other charities and local authorities to safely reissue complex and expensive paediatric mobility and postural support equipment so that more children get the equipment they need, quicker.

For more information and to check what is available, please visit [www.demandequipment.com](http://www.demandequipment.com)

\*The Medicines and Healthcare Products Regulatory Agency is responsible for regulating all medicines and medical devices in the UK by ensuring they work and are acceptably safe.



# Education

Helping students beyond the workshops

Ever since its inception DEMAND has always been passionate in educating others about inclusive design and design for disability. Our highly rated placement scheme gives students the opportunity to gain first-hand experience in working with and in designing products which make a real positive difference to people's lives. This insight both informs and challenges students' own creative processes as well as helping them explore user-centred design in a very practical way.

## George, Manchester Met

"I have gained valuable practical engineering skills at a commercial level on products which make a real difference to the quality of living for people."

## Hollie, Brunel

"It's great to be part of the whole design process from assessment to delivery, which is a rare opportunity in the design industry."

## Morgan, Oaklands College

"Working at DEMAND has been the most exciting 5 months of my life. I have already learnt a huge amount."

## Isabel, Nottingham Trent

"As well as learning a vast range of invaluable design skills, working at DEMAND has inspired me to continue with inclusive design in the future."

## Jack, Nottingham Trent

"The placement at DEMAND has allowed me to understand the manufacturing process with hands on experience of workshop machinery."

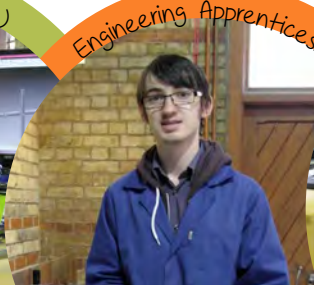
Automotive Engineering (BEng)



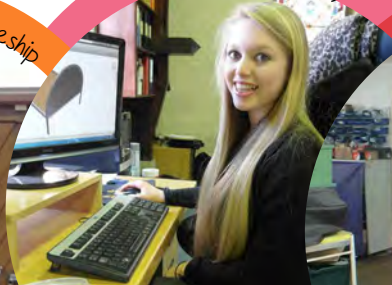
Product Design (Bsc)



Engineering Apprenticeship

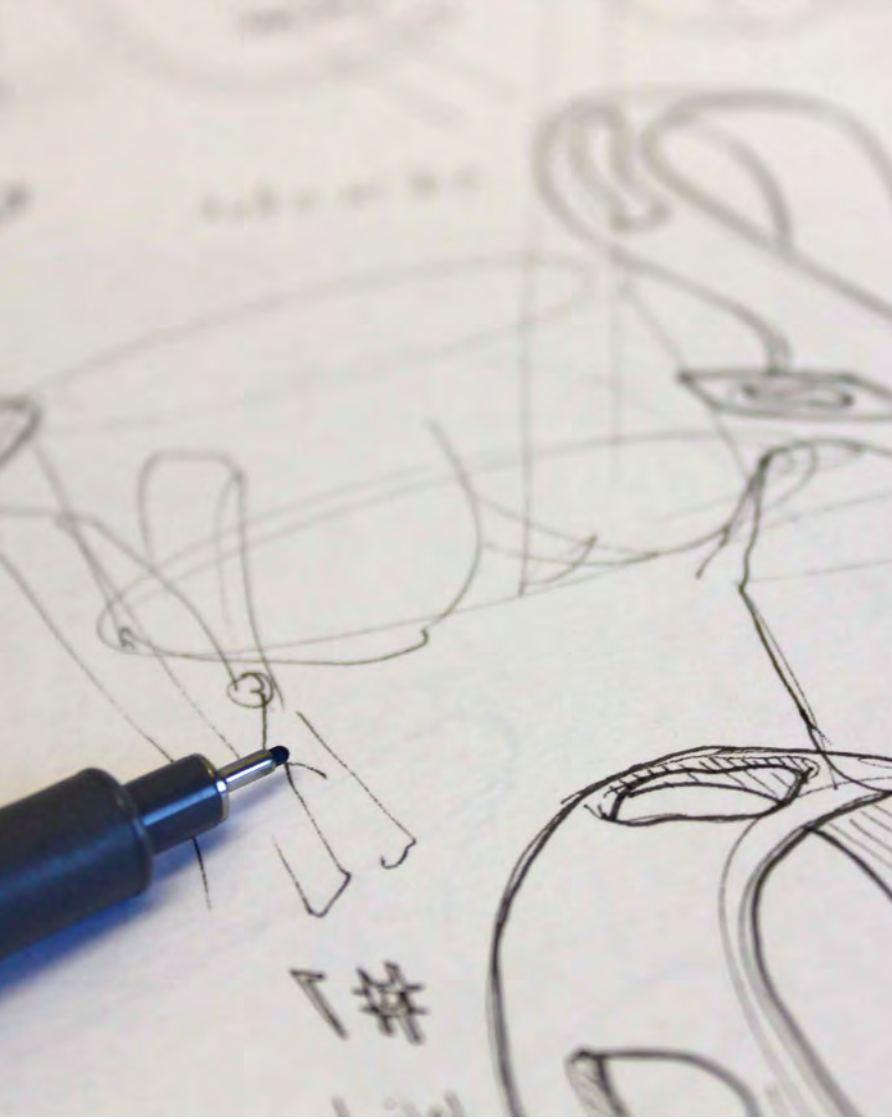


Product Design (BA)



Product Design (BA)





## Working directly with Universities

DEMAND provided thirty-seven first year Product Design students from Nottingham Trent University with a group project which encouraged the students to consider the unique challenges of disabled individuals through the redesign of an existing product to better suit the needs of a disabled user.

Four weeks later, DEMAND team members enjoyed formal presentations of the students' designs and prototypes. The ideas were judged on benefit and manufacturing potential. The winning design was an innovative blood testing device for people with diabetes which could be operated one-handed.

Building on the very positive feedback from both students and staff, we will be running a similar course module next year for fifty second year students. The next step will be to develop the concept with other Universities so that as many designers as possible entering the workplace do so with a better understanding of the need to design inclusively and to be champions of good design for disability.

# Helping even more people

DEMAND's future directions

We know that our skill and expertise can, and should, be helping even more people than we do already. We have worked hard over the past three years to build a modest development fund which is now allowing us to invest in 4 key areas;

- **Designing and manufacturing;** expanding our traditional activities like bespoke equipment, modifications and adaptations as well as developing sport, leisure and fitness equipment.
- **Educating;** helping more designers and engineers design well for people with disabilities. Encouraging young designers and providing learning materials and events. Developing online courses. Providing student placements and apprenticeships.
- **Sharing;** Cracked-It.org, an online service connecting ingenious people wanting to improve equipment and technology for people with disabilities. Giving a platform for people with disabilities to actively get involved in designing equipment that works for them.



Testing out the FES Rowing machine



Morgan, apprentice, manufacturing Boccia Lites



- **Reaching out;** providing core services across wider geographies. Developing field based capability.

Our increasingly connected and digital world gives us fantastic low cost tools and unprecedented reach with which to build capacity and increase the impact we have without adding unnecessary costs. Between 2009 and 2011 we increased the number of people we helped eight-fold.

Between 2015 and 2020 our plan is to repeat and magnify that success 3 fold. Ambitious? Yes. Achievable? Yes - with help from our great supporters, who give so generously of their money, time, materials, skills and expertise.



# Money In...

Where every £1 of income comes from and how we use it

## Trusts and Foundations

The cornerstone of our fundraising, Trusts and Foundations contributed 69% of our income.

## Self Generated Income

We earn money through production of our own products such as Boccia ramps and refurbishing and selling pre-owned equipment.

## Community Fundraising

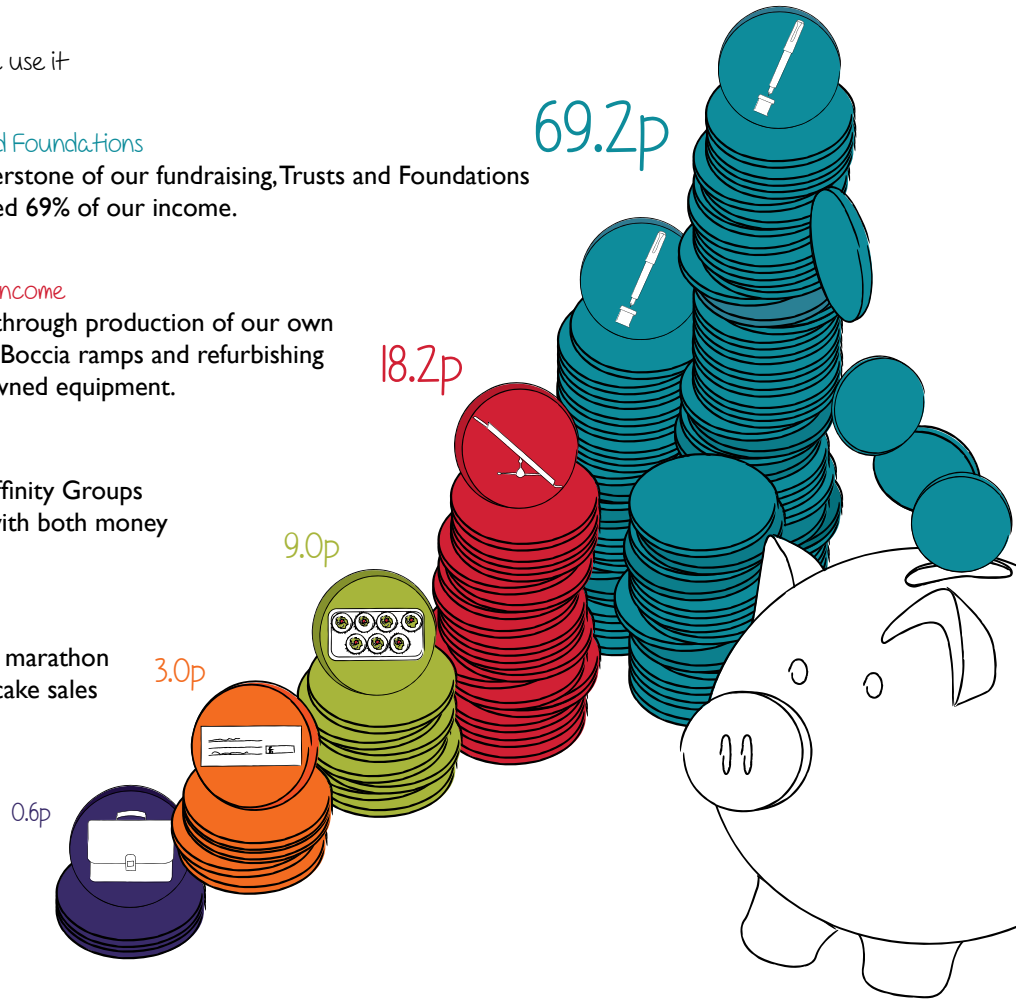
Community organisations, Affinity Groups and Businesses support us with both money and materials.

## Individual donations

Individuals' contributions ranged from marathon running, and long distance walking to cake sales and lunch time busking sessions.

## Other Income

The remainder of our income (0.6%) is from Gift Aid and deposit interest.





# ...Money Out

66.9p *Design and Manufacture*

Our design and engineering work is the core of what we do. Helping people to live life their way.

*Fundraising*

13.3p

We have a very small but highly effective fundraising team. For every £1 we invest here, we get £6.15 back. This is almost double the UK average for active fundraising.\*

*Students and Education*

Our student Placement and Apprentice programme is developing the design and engineering talent of tomorrow.

*Governance*

5.8p

Our board of trustees give their time freely and most of the cost is an allocation of management time to this essential activity.

*Marketing*

4.1p

Telling our clients' stories is vital to helping people understand what we do, how we might help them and how they might help us.

*Administration*

3.8p

Making sure we run our operation as effectively as possible, pay our suppliers, process online orders and keep everything shipshape.

\* Fundratios 2013

# Getting Involved

A huge thank you to everyone who has helped

We love sharing great stories with you and none of what we do would be possible without the tremendous support we get from individuals, businesses, community and faith groups, associations and affinity groups, schools and Trusts and Foundations.

Thank you for thinking of us and for baking, running, walking, eating and singing to generate the income that keeps the creative juices flowing and the workshops humming for our fabulous clients.

538 people and organisations contributed physically and financially in 2014; some for the very first time, like the de Brye Charitable Trust, The Co-Op Group and Cummins Turbo Technologies, and many, like Kingsley Napley, SAP, Laird PLC, and the myriad Trusts, most of whom prefer anonymity to limelight, who have supported us over several years.





There are many ways in which you can get involved and help us. We hold a variety of events throughout the year, from fashion shows to sky dives, and we would be delighted to have you help us transform many more lives.

For more information please visit [www.demand.org.uk/events](http://www.demand.org.uk/events).

If you would rather organise your own events in support of DEMAND, we would love to hear your ideas and to help you make them happen. Contact [denise@demand.org.uk](mailto:denise@demand.org.uk)

It is also very easy to have an impact immediately. To donate and help someone live life better visit our website and look for the big 'Donate' button, send a cheque to **DEMAND, FREEPOST SB408, Abbots Langley WD5 0WD** or call **01923 681800** and give via your debit or credit card.

Remember to *giftaid it* if you can. It makes a big difference.

Many people like to leave a gift to charity in their will. If you are having a will drawn up or updating an existing one please keep us in mind and help us continue our work far into the future.



### Sponsored Event

Take part and have fun fundraising for DEMAND



### Credit & Debit Card

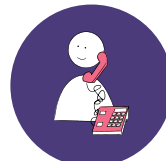
Please visit:  
[www.demand.org.uk](http://www.demand.org.uk)

Includes option to regularly donate



### Host an Event

Get in touch if you have a good idea



### Credit & Debit Card

Please telephone:  
01923 681 800



### Volunteer

Give time and share your skills and expertise



### Cheque & Giftaid

Post to DEMAND's Head Office

Please mail to:  
(no stamp required)

DEMAND  
FREEPOST SB408  
Abbots Langley  
WD5 0GQ

I enclose a cheque payable to  
DEMAND for the sum of:

Name:

Email:

Address:

*giftaid it*

I am a UK tax payer  
and would like to Gift  
Aid my donation

Signature:

**Head Office,  
Abbots Langley**

The Old Chapel  
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Abbots Langley  
Hertfordshire  
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