



Cyflymu  
**Accelerate**

# **The Impact of Accelerate Wales**

May 2018 - April 2022

**Internal use only**

# Foreword

The Accelerate Wales programme was established in 2018 with £24m of funding from Welsh Government through the European Regional Development Fund, the partners (Cardiff University, Life Sciences Hub Wales, Swansea University, and University of Wales Trinity Saint David), and Welsh health boards. The aim was to accelerate the development and adoption of new technology, products and services into health and care across Wales.

This report highlights some of the impact of the programme since its inception in May 2018, providing key case studies, testimonials from Accelerate alumni, and a look to the future of the programme.



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# 01

## What is the Accelerate programme?

# What is the Accelerate programme?

Accelerate, a programme led by Life Sciences Hub Wales, in partnership with Cardiff University, Swansea University and University of Wales Trinity Saint David, helps drive the adoption of Welsh life science innovation.

We work with small-medium enterprises (SMEs) developing healthcare innovation that will benefit patients, improve NHS Wales, and boost the Welsh economy. The programme was developed to be flexible, with applications accepted from academics, industry partners, or clinicians. The programme support offering includes:

## Identifying

research and development collaboration opportunities between industry, academia and health

## Connecting

innovators to appropriate experts in health technology, user experience and clinical engagement

## Helping

innovators navigate the life sciences ecosystem

Accelerate is co-funded by the European Regional Development Fund, the Welsh European Funding Office, Welsh Government's Health and Social Services group, associated universities, Life Sciences Hub Wales and the Welsh health boards, ending in December 2022.



**Vaughan Gething AM**, Minister for Transport and Economy (previously Health and Social Services), Welsh Government said on the launch of the programme:

"Developing innovative new ways of preventing, treating, and improving illnesses and diseases is a vital part of Welsh Government's vision for the future of the NHS in Wales. The Accelerate programme will help to develop new ideas for health products and services more quickly for us to use in our NHS and across the world."

# 02

## Meet the partners

# Meet the partners

The Accelerate programme partner organisations have significant skills, knowledge, and expertise that's available to help accelerate innovation in Wales. The tailored support available to innovators is here to help support evolving needs through a flexible approach.



Prifysgol Cymru  
Y Drindod Dewi Sant  
University of Wales  
Trinity Saint David



Swansea  
University  
Prifysgol  
Abertawe



## University of Wales Trinity Saint David's Assistive Technologies Innovation Centre (ATiC)

Expertise and experience includes user-centred design research, user experience evaluation and behavioural analysis, 3D data, motion capture and prototyping in a range of materials.

## Clinical University's Clinical Innovation Accelerator (CIA)

Based at the School of Medicine, Cardiff University, CIA provides innovators with direct access to clinicians, patients, and clinical researchers, and can foster collaboration with researchers from across Cardiff University.

## Swansea University's Healthcare Technology Centre (HTC)

HTC aligns its strengths within Swansea University's Faculty of Medicine, Life Science and Health, including Sports Technology, Medical Technologies, Microbes and Immunity, Biomarkers and Genes as well as Innovation Management and Evaluation

## Life Sciences Hub Wales (LSHW)

Sector business support including, research collaboration, partnership facilitation, market analysis, marketing, communications, and signposting to additional streams of support.

# Assistive Technologies Innovation Centre (ATiC)



ATiC is a unique, multi-modality, state-of-the-art research and knowledge exchange centre created to support the innovation needs and drive change and transformation in the life sciences sector and NHS in Wales. The Centre's £1.1m cutting-edge user experience (UX) and usability engineering (UE) research laboratory is based at University of Wales Trinity Saint David's Swansea Innovation Quarter.

Powered by a diverse multidisciplinary team of artists, designers, architects, scientists, and engineers, ATiC's focus is on understanding people's needs through user-centred thinking, design research methods, and objective physical measurement tools.

The team analyses user experiences and performance during interaction with physical and digital healthcare products, services, systems, and spaces. These insights are used to help our partners develop innovative solutions for health and wellbeing that transform lives.

## ATiC provides expertise in the following areas:

- Design research
- UX and UE engineering and evaluation
- Human computer interaction
- Behavioural observation
- Psychophysiological measurement
- Thermographic analysis
- Biomechanical and kinematic analysis
- Pressure mapping and EMG
- 3D scanning and data conversion
- 3D computer modelling
- Virtual reality simulation
- 3D printing, prototyping and testing



[www.uwtsd.ac.uk/atic/](http://www.uwtsd.ac.uk/atic/) | @ATiCUWTSD



# Clinical Innovation Accelerator (CIA)



The CIA has developed an innovative approach to facilitate the development of impactful collaborations. The bespoke method with which each CIA project is approached enables maximum flexibility when drawing on available resource and tailoring support to best meet each project and its partners' needs.

The flexible CIA model has brought together academics, enterprises and clinical staff to deliver on collaborative research projects. CIA engagement with NHS services has facilitated access to healthcare expertise, patient cohorts and patient samples, a significant limiting factor to R,D&I between academics and industry.

The collaborative model increases resilience for projects and their partnership organisations, increases options, engagement, opportunity, flexibility and overall project sustainability.

For Cardiff University this has been a bespoke award process; tailoring working methods directed at developing and communicating health and care research and innovation, including:

- Engagement with industry such as forging private/public sector partnerships to increase Welsh economic development and job creation
- Evidence-based knowledge sharing such as generating IP, impact and new commercial activity
- Employment and engagement of early career researchers and students in different fields and disciplines, increasing academic experience, knowledge and training and increasing the talent pool within Cardiff University, enterprises and public sectors
- Collaboration with Health Boards, social enterprises and health and social care professionals to facilitate integrated, policy relevant research and innovation projects, improving wellbeing and health outcomes
- Public engagement through participant/patient experimental measures, broadcasts, talks, case studies, videos and general media

The programme of work delivered by CIA has enabled targeted support for Welsh enterprises and health boards to make significant advancements towards healthcare provision and economic development.

The strength of this work lies in the number of sustainable processes and practice models that are contributing to a pan-Wales legacy of delivering a Better Wales. The impact of this work will continue to be realised beyond the lifespan of Accelerate, with opportunities to translate and commercialise these innovations beyond Wales.

[www.cardiff.ac.uk/innovation/our-partnerships/cardiff-and-vale](http://www.cardiff.ac.uk/innovation/our-partnerships/cardiff-and-vale) | @AccelerateCIA



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Cyflymydd Arloesedd Clinigol  
Clinical Innovation Accelerator

# Healthcare Technology Centre (HTC)



The Healthcare Technology Centre (HTC) brings partners from industry, academia, and the NHS together within a life sciences and healthcare setting to support technology development and innovation that can improve the level of care in the NHS and boost economic value in Wales.

HTC is committed to ensuring the research, innovation, and expertise within the team is utilised to develop collaborative research and innovation projects, joint funding proposals and connected ecosystems.

## Capabilities:

HTC's team of Innovation Technologists align to research strengths within Swansea University's Faculty of Medicine Life Science and Health including Sports Technology, Medical Technologies, Microbes and Immunity, Biomarkers and Genes as well as Innovation Management and Evaluation. Specifically, the team has led projects focussed on the development and evaluation of medical devices, reproductive biology, rheology, bio-imaging, bio-mechanical engineering, chemical analysis, commercialisation and innovation management.

Through collaboration we can support SMEs with:

- Collaborative R&D projects with expertise across disciplines including life science, medical technology and innovation management.
- Commissioned research and consultancy supported by our research technologists and project managers.
- Facilitating connections to academic expertise and student placements
- Having a university partner in collaborative grant applications.

## Network

The Healthcare Technology Centre plays an integral role in supporting collaborative activity with clinical, industrial, and academic communities that connect key collaborators in health and life science.

Working pan-Wales, HTC has developed strategic partnerships with local health boards through its partnership with Hywel Dda University Health Board's TriTech Institute and through coordination of the ARCH Innovation Forum – a regional collaboration between Hywel Dda University Health Board, Swansea Bay University Health Board, Swansea University and the Healthcare Technology Centre.

[www.swansea.ac.uk/accelerate-htc](http://www.swansea.ac.uk/accelerate-htc) | @AccelerateHTC



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Canolfan Technoleg Gofal Iechyd  
Healthcare Technology Centre

## Life Sciences Hub Wales (LSHW)



Life Sciences Hub Wales has a strategic oversight role. It has extensive knowledge of the challenges and needs of health and care services in Wales and provides links with the broader Welsh life sciences ecosystem.

Life Sciences Hub Wales can support organisations in the way that suits you best, and can be flexible its approach.

### Life Sciences Hub Wales offerings:

- Help identifying research and development collaborations – with an industry, academic, or clinical partner
- Dedicated resource – the opportunity to work with experts in project scoping and technology transfer, research and development, user experience, product design, and clinical engagement
- Clinical input – working with NHS Wales to enhance your research and development
- Advice and guidance – access to a multidisciplinary team of experts in a range of spheres
- Access to leading Welsh Universities, University Health Boards and Trusts, patients, facilities, personnel and wider connections across the life sciences sector



Through the Accelerate programme, Life Sciences Hub Wales offers dedicated communication and marketing support and market analysis reports to health and care businesses based in Wales. This includes the following services:

- Reviewing and analysing current marketing and communication activities
- Providing initial recommendations and bespoke offers of support such as:
  - Detailed audits across social / website / content
  - Strategic advice and guidance
  - Audience insight and engagement
  - Message, social media and campaign development

Through one-to-one development sessions, Accelerate will work with you to refine and expand your business's communication.

[www.lshubwales.com/life-sciences-hub-wales-accelerate](http://www.lshubwales.com/life-sciences-hub-wales-accelerate) | @lshubwales



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Hwb Gwyddorau Bywyd Cymru  
Life Sciences Hub Wales

# 03

What has the programme achieved?

# What has the programme achieved?

May 2018 - April 2022



**Over £3.6m**

private funding / investment secured



**144**

jobs created



**101**

projects supported



**109**

products / services brought to market



**11**

new enterprises created

# 04

## Programme feedback

# Programme survey feedback

“ Initial enquiries are handled efficiently with transparent communication between the Accelerate partners, effective management of expectations, and a clear triage pathway. ”

“ The scoping phase quickly identifies potential projects and the best partners to deliver project goals. There is flexibility regarding project structure and timescales and the Accelerate partners know who is working with whom. ”

“ Project delivery is effective, and all targets are achieved. Efficient information sharing and a clear project management process, mean that KPIs are fairly attributed and easily monitored. ”

“ This was a specific piece of work related to social media PR profile - the support from Accelerate was instrumental in providing a framework for delivering a social media campaign. Accelerate understood our requirements and his professional guidance was therefore relevant and ready for adoption. ”

“ Brilliant support and communication from start to finish.  
Opening of doors that I could not have done on my own. ”

# 05

## Project testimonials



# Project testimonials



**Jason Ingham, Senior Chief Technologist/ Lab Manager,  
Cwm Taf Morgannwg University Health Board**

"Being part of the CIA Accelerate project has had a massive push for the Dental and Maxillofacial Laboratory down the digital pathway. For us as a team it has helped us learn and grow in confidence in not only our digital skills, but also in the way we interact with other specialities within the Trust, with industry and education. These skills are now being utilised back in our own specialty to enable us to develop services for our patients."



**Sam Court - Co-Founder, University**

"HTC and Accelerate are great resources not only for the network of amazing people, but to help individuals and businesses look at the big picture of what can be achieved. This, combined with a realistic approach of identifying the short-term steps needed to gain traction and a clear route to market is what makes the programme a valuable resource. Accelerate gives businesses like University the tools to grow from an idea to an established business. Without these opportunities, businesses face being left behind and unable to access the market that they are seeking to benefit."



**Jordan Copner - Founder & CEO, Copner Biotech**

"The support from HTC and Accelerate has been invaluable, especially to a company that started in a global pandemic. Obviously, funds were incredibly limited so to have a partner with such expertise, particularly cell culture has been incredible. Accelerate has helped us to validate our scaffolds in a biological setting and they have conducted multiple cell experiments including scanning electron microscopy and cellular assays. These two together gives Copner Biotech a plethora of data to move forward for commercialisation."

# Project testimonials



**Dr Jane Davies, Clinical Support Manager, Huntleigh Healthcare Ltd**

"As a company, we very much value the opportunity to collaborate with our esteemed colleagues at Accelerate's CIA team, Cardiff University and WWIC. Their combined expertise and assistance is invaluable as we work together on this important research project with the aim of improving the lives of those who suffer from lower leg ulceration."



**Simon Jones, CEO of Energist Medical Group**

"This is my first experience of working with ATiC and HTC. I have been really impressed with the individuals working on the project team, who have been easy to work with, professional at all times, seeking opportunities to maximise the value of the project through their own and wider resources. Based on what I have experienced so far, I have high confidence in the project delivering meaningful outcomes, which will add significant value to Energist. I would strongly recommend the Accelerate Project."



**Dr Tom Powell, Innovation Manager, Cwm Taf Morgannwg University Health Board**

"Working with the team at ATiC and the wider Accelerate programme allowed us to access expertise and support that helped to develop and refine the ideas behind the e-whiteboard concept. This was a great piece of partnership working and we've continued to work with the team at ATiC and UWTSD on other innovative projects."

Cwm Taf have also benefitted from the expertise and support of CIA for a number of projects delivering recycling and sustainability, wellbeing, COVID response, VR teaching and training (partnered with ATiC), and innovative 3D technologies."

# 06

## Key projects

# Key projects

## Assistive Technologies Innovation Centre (ATiC)

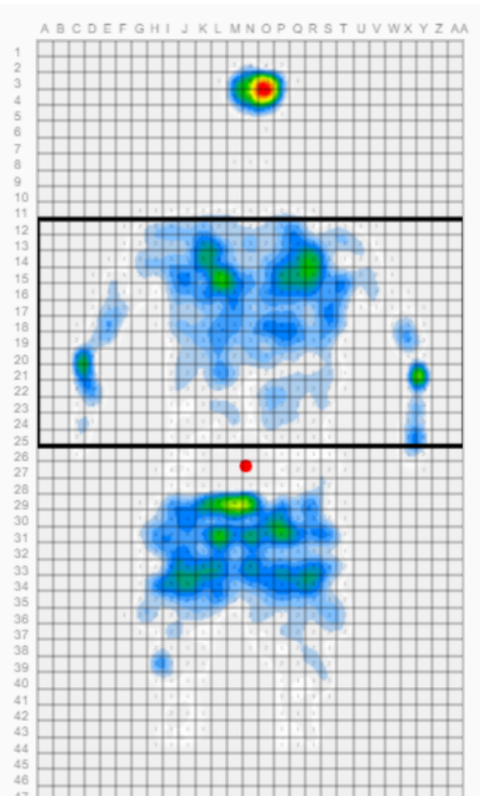


### Exploring the impact of LIMB-art prosthetic leg covers and public attitudes towards them

Design and manufacturing company LIMB-art Ltd, which produces leg covers for prosthetic users, was established out of a desire to help other users raise their confidence, be proud of what they have, and just as importantly, to have fun showing off their unique limb-art while doing so.

ATiC and the Psychological Evaluation and Research Consultancy Hub (PERCH), within UWTSD's Centre for Psychology and Counselling, are exploring the impact of bespoke prosthetic leg covers on the quality of life and wellbeing of amputees, and public attitudes towards them. The study will provide important insight into the potential for such a product to improve quality of life and reduce stigma for amputees.

[Read full case study here.](#)



### Inflatable moving, handling, and bathing equipment for the global healthcare market

Mangar Health is the UK market leader in the design, manufacture, and supply of unique inflatable patient lifting, bathing, and bed assistive devices, which protect users and patients from injury and enable independent living for people with limited mobility. As the impact of an ageing population becomes more acute, safe patient lifting is an increasingly important aspect of both primary and secondary care.

Mangar Health approached ATiC to research and develop innovative product solutions that improve both patient and carer safety and enhance product usability. Specifically, the company want to develop a new safer, effective, and reliable Patient Air Transfer System, for lifting and transferring patients within hospitals.

[Read full case study here.](#)



# Key projects

## Clinical Innovation Accelerator (CIA)



### Evaluating digital virtual clinics delivered by high street optometrists

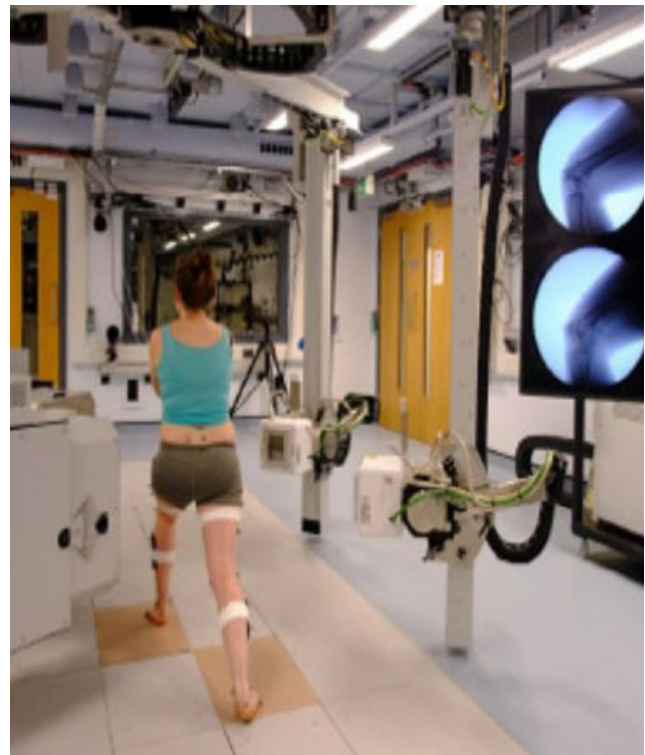
In December 2019, 38% of 115,000 patients waiting for hospital eye appointments in Wales exceeded their target date to see a clinical Ophthalmologist. CIA worked with Cardiff and Vale University Health Board and specialist Optometrists at high street Opticians to alleviate unsustainable pressures on current outpatient services, through innovation in state-of-the-art digital infrastructure and Electronic Patient Records. CIA supported Cardiff academics, Optometrists, Optometry Wales, and the Health Board to evaluate a revolutionary eye care model facilitating specialised services delivered closer to where patients live.

[Read the full case study here.](#)

### Personalised virtual surgery for optimised knee arthritis treatment

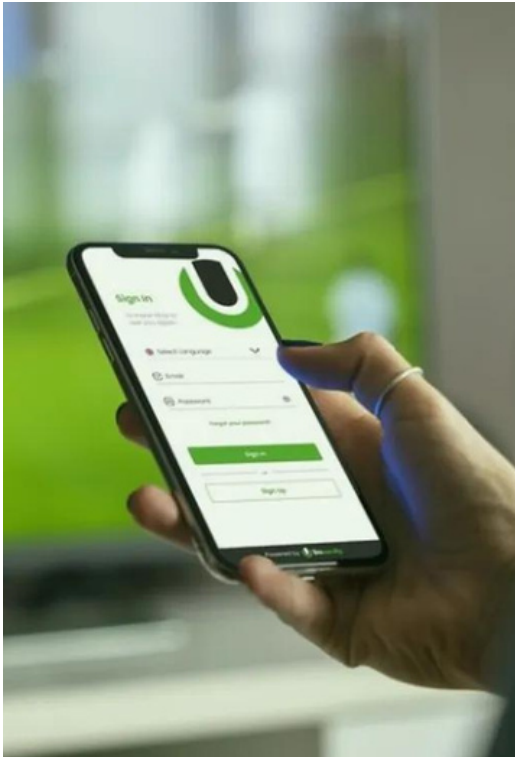
Osteoarthritis affects nearly 9 million people in the UK; the knee being a commonly affected joint. High Tibial Osteotomy (HTO) is an effective treatment for younger knee osteoarthritis patients as it preserves the native joint by re-aligning the tibia and redistributing the painful high-pressure regions within the knee. However, patient outcomes are still dependent on the accuracy of the procedure, and current solutions are a one-size-fits-all approach. This project proposes to address this problem by introducing a bespoke surgical planning tool.

[Read the full case study here.](#)



# Key projects

## Healthcare Technology Centre (HTC)



### Developing an understanding of sports inclusion and participation at universities

University is an award-winning app that aims to increase sports participation and engagement and improve the health and wellbeing of university students. The platform uses behavioural analytics and social engineering machine learning algorithms to help students connect with like-minded students alongside recommending new sports.

Through collaboration with HTC, University co-developed a series of questionnaires, surveys and workshops that gathered data which enabled a deep understanding of factors that influence sports inclusion. This was used to shape the development of their MVP and supported the short-term steps needed to gain traction and identify a clear route market.

[Read the full case study here.](#)

### Sterilisation and cytotoxicity of 3D-printed cell scaffolds

Copner Biotech's state-of-art design and manufacturing process enables 3D cell culture scaffolds to be produced based on concentric shape constructs, such as circles, providing a consistent variability of pore size emanating from the centre to the periphery of scaffold.

HTC supported the company with sterilisation and cellular toxicity testing that led to the generation of an in vitro data set relating to both the appropriate choice of sterilisation method and toxicity profile of the scaffolds. This has enabled Copner Biotech to move on to the next phase of their development pipeline and supported a successful £123,724 Smart Cymru funding application.

Now established in Tata Steel's Ebbw Vale Innovation Centre, Copner Biotech has lodged patents for its 3D cell-culture scaffold and Negative Space Inkjet Printer, and its innovative products now feature on leading bio-tech sales portal, 2B.

[Read the full case study here.](#)



# Key Projects A

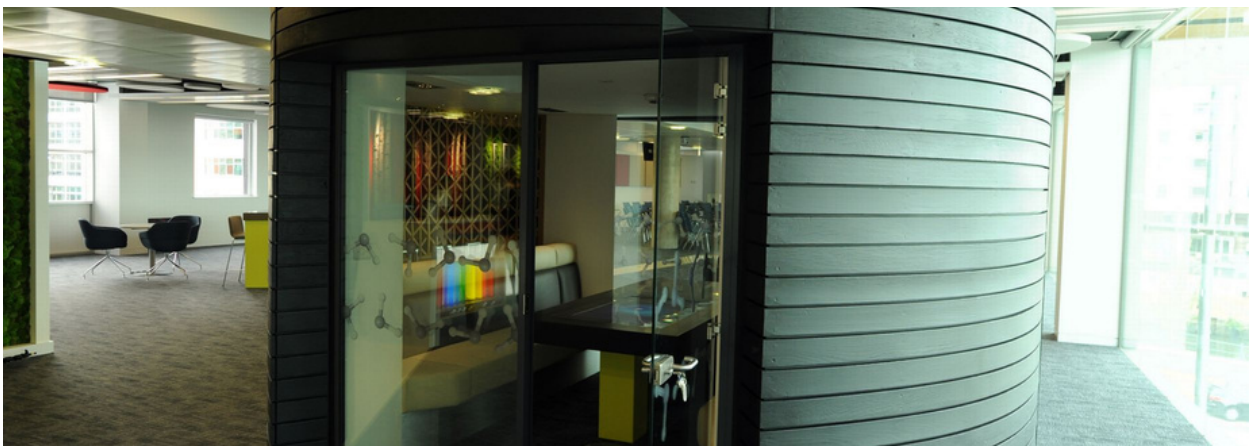
## Life Sciences Hub Wales (LSHW) A



### Virtual reality training for healthcare professionals

Goggleminds use virtual reality headsets to create training programmes for health workers. The technology creates scenarios that can be either too infrequent or too dangerous to use on real patients.

[Watch the video project on the Life Sciences Hub Wales' YouTube channel.](#)



### Bespoke support for organisations

Specialist teams within Life Sciences Hub Wales work with organisations to enhance their understanding within the sector by creating bespoke marketing analysis reports and enhance business profiles through marketing and communications support.

[Learn more about Life Sciences Hub Wales' offering on the website](#)

# 07

## Statement of intent



# Statement of Intent for Accelerate A

## Our Agency A

Since 2018, the Accelerate programme has spearheaded the development of collaborative innovation between industry, academia, and health with the aim of improving health and well-being across Wales.

Our successes show that the relationships developed are helping to accelerate health and social care solutions, bringing innovations closer to patients, and boosting the health and economy of the nation. Our impact comes from working together. Harnessing Welsh skills and knowledge to support economic growth and prosperity and improve the nations well-being.

## Our Future A

As we move towards the next phase of the programme, our aim is to embed the Accelerate approach to innovation across Wales. To do this we need to grow, adding new partners to the programme and reaching beyond Wales to bring the best health innovations to the people of Wales and help take Welsh innovations to the world.

We will continue to foster the relationships we have developed, and build new relationships aimed at enhancing collaborative innovation in Wales. With a focus on improving health, we will support the solutions that are needed and ensure they are available to all.



**Eluned Morgan MS**, Minister for Health and Social Services

"The Accelerate Programme is a Welsh collaboration that supports partnership working between our colleagues in healthcare, academia and industry, resulting in improved outcomes for patients by co-creating innovative solutions to challenges across health and wellbeing. The programme supports the NHS and industry innovators in Wales by providing the support and expert advice needed to turn good ideas into more relevant products and services, creating lasting economic value."

# Appendices

- Exploring the impact of LIMB-art prosthetic leg covers and public attitudes towards them
- Inflatable moving, handling and bathing equipment for the global healthcare market
- Evaluating digital virtual clinics delivered by high street optometrists
- Personalised virtual surgery for optimised knee arthritis treatment
- Developing an understanding of sports inclusion and participation at universities
- Sterilisation and cytotoxicity of 3D-printed cell scaffolds
- Virtual reality training for healthcare professionals



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