

# Belfast Region City Deal Overview of Innovation Pillar Projects

May 2019



# Overview of Innovation Pillar Projects



Project	Global Innovation Institute	Advanced Manufacturing Innovation Centre	Institute for Research Excellence in Advanced Clinical Healthcare	Digital Healthcare Technology Hub and Living Labs	Screen and Media Innovation Lab
Sector	Information Technology (Digital)	Manufacturing (Advanced)	Lifesciences	Medical Technology	Creative Industries
High Level Overview	A cross-disciplinary digital innovation hub, integrating world-class capabilities across data processing and data analytics, cybersecurity, wireless connectivity and bioinformatics applied to the ICT, manufacturing, health & life sciences, and agri-food sectors	This Factory of the Future facility will provide a single "front door" for the manufacturing sector, uniquely bringing together advanced manufacturing technologies with Industry 4.0 disruptive technologies across aerospace, marine, materials handling, construction, agri-food & engineering sectors.	An integrated clinical research centre of excellence that will develop and deliver innovative clinical trials to drive improved health and social care in NI. It will link our innovation in clinical trials with investments planned in AI and data science to fully leverage the opportunities that exist at the interface of medical research and digital transformation	This project is focused on enhancing medical device design and software/prototyping centric, with a very strong clinical-industry pull towards the co-creation of digital healthcare technologies empowered by the software engineering, artificial intelligence, Internet of Things and nanotechnology. It includes a world class open innovation Living Lab Hub	This will provide a research-led, industry-facing research facility covering Film and Broadcast, Animation, Immersive and Games Development. It will provide the city-region with a world-leading research and innovation centre driving the convergence of creativity, content development, technology and digital delivery.
What does it hope to achieve by 2030?	Support 600 jobs £305m additional GVA £600m research grants and contracts Increase of 300-600 in regional hi-tech business cluster.	Support 4000 AMME jobs £295m additional GVA £203m research grants and contracts.	Supports 400 jobs £43m additional GVA Reduction of economic inactivity by 2,500-8,000 Gross long term economic benefits of £110m-£265m GVA	Technology Adoption Impacts £201m Spin outs - 10/ £64m FDI - 7 companies/ £80m UU Benefit £33m Sector skills impact £13.3m	Supports 2900 jobs £340m additional GVA 7 start-ups Attract 7 FDI partners Engaging 2000 disenfranchised young people
What is the indicative cost?	£56m- £67m	£82m- £96m	£51m- £61m	£45m- £55m	£40m- £48m

# Project Name: Global Innovation Institute (GII)



## What is the project about?

The project aims to create a Global Innovation Institute that will transform NI's digital economy by substantially increasing the volume and range of digital innovation that can be harnessed locally, nationally and internationally. The GII will be a cross-disciplinary digital innovation hub, integrating world-class capabilities across data processing and data analytics, cybersecurity, wireless connectivity and bioinformatics applied to the ICT, manufacturing, health & life sciences, and agri-food sectors. The GII will be collaborative (academic-industry-government) and will:

- Conduct world leading research in core digital technologies (Cyber, Wireless, HPC, AI/Machine Learning) and their applications in key sectors (Digital and Creative Technologies Advanced Manufacturing, Materials and Engineering, Life and Health Sciences, Agri-Food);
- Grow innovation-driven employment through translation of excellent multi-disciplinary research to create spin-outs, develop capability for SMEs, and embed research outcomes in the technology roadmaps of corporate primes;
- Provide a platform to grow innovation, in line with the BCRD Employability and Skills Framework, and provide opportunities for re-skilling those in transactional IT roles.

GII will be based in Titanic Quarter and will allow for a 500 strong team of researchers (building upon the 200 currently in ECIT), engineers and business development staff, housed in state of the art facilities, including NI's first peta-scale "AI-Cloud" supercomputer.

## Why is it a good idea?

The Belfast City Region suffers from significant economic imbalances in relation to the relatively large size of the public versus private sectors and under-representation in the economy of higher-value-adding sectors. Expansion of the NI knowledge economy, which currently supports around 40,000 high value jobs, is constrained by comparatively low levels of business engagement in R&D and skills shortages; yet NI has an ambition to grow to 80,000 jobs in the knowledge economy by 2030. Building on indigenous company growth and attracting FDI will both be critical to this.

## How much will it cost?

Up to £67m capital funding for the two-phased programme.

## Who will pay for it?

Treasury contribution (Indicative £50m)

Balance of funding from University and partner sources

## Estimated Returns on Investment?

The estimated economic benefits of the project by 2038 include:

- ❑ 300 direct jobs (supporting an additional 270 indirect and induced jobs)
- ❑ £11 million of additional direct GVA (supporting an additional £7 million in indirect and induced GVA)
- ❑ £600 million of research grants and contracts
- ❑ £305 million of additional GVA in the wider regional economy
- ❑ Increase of 300-600 in regional hi-tech business cluster.

# Project Name: Advanced Manufacturing Innovation Centre (AMIC)



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Creative Centre  
an tOir Mhírim  
agus an Dáim  
Newry Mourne  
and Down  
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## What is the project about?

AMIC will become the springboard for manufacturing innovation within the region. It will operate at the interface between academia and industry; accelerating new technology developments through the innovation phase and ensuring that real industrial challenges based on market need are solved through collaboration with the best university research. There are four main components to AMIC, as follows:

- (1) AMIC's Factory of the Future facility to provide a single "front door" for the manufacturing sector, uniquely bringing together advanced manufacturing technologies with Industry 4.0 disruptive technologies;
- (2) NI Advanced Composites' and Engineering Centre (NIACE 2)- a joint QUB, UU and Bombardier facility
- (3) NI Technology Centre- a university based technology centre for businesses,

AMIC will serve the advanced manufacturing sector including: aerospace, marine, materials handling, construction, agri-food engineering, automotive and space. It aims to stimulate growth in the advanced manufacturing sector, improve productivity and increase R&D investment in the Belfast Region.

## Why is it a good idea?

AMIC will create an industrial innovation eco-system, linking regional capability to the national catapults and attracting inward investment. It will enable companies to experiment with new process flows and materials before implementing in their own factories. It will also allow start ups to experiment with manufacturing processes before committing to the installation of expensive high-end equipment themselves.

68% of all advanced manufacturing jobs in Northern Ireland are located within the Belfast Region, as are many of the large manufacturing employers and significant SMEs. This initiative will also provide an opportunity to create an advanced manufacturing corridor from Newry through Belfast and connecting with the rest of Northern Ireland beyond the Belfast Region.

## Estimated Returns on Investment?

- ❑ 4,000 AMME jobs by 2030.
- ❑ The estimated economic benefits of the project include:
  - ❑ £8.8 million of additional direct GVA (supporting an additional
  - ❑ £9.7 million in indirect and induced GVA)
  - ❑ £295 million of additional GVA in the wider regional economy
  - ❑ £203 million of research grants and contracts.

## How much will it cost?

Up to £96m capital funding for three linked facility investments.

This includes some £30.8m in capital equipment.

## Who will pay for it?

Treasury contribution (Indicative £65m)

Balance of funding from University and partner sources

# Project Name: Institute for Research Excellence in Advanced Clinical Healthcare (i-REACH)



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## What is the project about?

i-Reach is an integrated clinical research centre of excellence that will develop and deliver innovative clinical trials to drive improved health and social care in NI. It will establish a state-of-the-art, integrated clinical research facility, providing the infrastructure and a platform for academic, industry, government and healthcare partnership to operate far more coherently, with a clearer focus on improving trial efficiency and meeting patient need. Co-locating a number of existing facilities near to a university hospital setting and aligned with a major healthcare trusts to create a single healthcare platform for clinical trials; In addition to business development, governance and ethics functions to provide joined up services to compliment the physical capabilities.

Clinical trials are increasingly driven by the collection of real world data and technology driven monitoring across cities and rural areas. The i-Reach proposal provides the opportunity to link our innovation in clinical trials with investments planned in AI and data science to fully leverage the opportunities that exist at the interface of medical research and digital transformation.

## Why is it a good idea?

- It will meet the aims of the Lifesciences Industrial Strategy by increasing the capacity to deliver industry and government funded clinical trials, increasing speed and access by patients to the most innovative trials.
- It will also meet the aims of the Lifesciences Sector Deal 2 by strengthening the environment for clinical research within the UK.
- It creates the 'shop window' for Life Sciences to attract FDI to NI, providing streamlined, joined up infrastructure. It also supports indigenous companies and will house overseas investors in industry-academic initiatives
- It is framed at a pivotal point in time in medical research with the arrival of Big Data, AI and machine learning are transforming how clinical trials are designed, monitored and outcomes taken by industry.

## How much will it cost?

Up to £61m capital funding

## Estimated Returns on Investment?

The estimated benefits of the project include:

- ❑ 400 jobs by 2030.
- ❑ £43 million of direct, indirect and induced)
- ❑ Reduction of economic inactivity by 2500 and 8000
- ❑ Gross long term economic benefits of £110m-£265m

## Who will pay for it?

Treasury contribution (Indicative £41m)  
Balance of funding from University and partner sources

# Project Name: Digital Healthcare Technology Hub and Living Labs



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Newry, Mourne  
and Down  
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## What is the project about?

CDHT is focused on enhancing medical device design and software/prototyping centric, with a very strong clinical-industry pull towards the co-creation of digital healthcare technologies empowered by the underpinning worlds of software engineering, artificial intelligence, Internet of Things and nanotechnology

CDHT will seek to:

- Create a world class open innovation Hub incorporating a Living Lab system (scaled at GIA of 5,000m<sup>2</sup>) in the area of Digital Healthcare Technology within a Belfast city centre building in close proximity to the Ulster University Belfast Campus by December 2021;
- To develop a suite of living labs on the RVH estate in the areas of cardiology, diabetes, stroke and respiratory diseases by December 2025
- Provide the sector with a dedicated facility to enhance productivity, including a hatchery function, an ecosystem of support for growing spin outs and a temporary accommodation solution for spin ins and collaborating partners;

## Why is it a good idea?

Growth in digitally enabled health care technologies globally is exponential, driven by need for more efficient, minimally invasive medical devices which reduce healthcare costs driving change. The CHHT will stimulate the establishment of a Digital Healthcare Technology City District, increasing inward investment to the region. Providing the sector with facility to drive sector growth and enhanced productivity in the medical device and related industries.

*Key Drivers:*

- Provide acceleration platforms in the health areas of respiration, strokes and diabetes
- Reduce overall cost of the design process, by enabling changes earlier when they are easier to implement
- Increase access to market for small firms
- Improved reliability in market evaluation, with early feedback and reduced design time

## Estimated Returns on Investment?

- Technology Adoption Impacts £201m
- Spin outs - 10 companies/ £64m
- FDI - 7 companies/ £80m
- UU Benefit £33m
- Sector skills impact £13.3m

## How much will it cost?

Up to £55m capital funding for central hub including £14.6m for refurbishment of Living Labs at RVH and capital equipment.

## Who will pay for it?

Treasury contribution (Indicative £34m)  
Balance of funding from University and partner sources

# Project Name: Screen and Media Innovation Lab



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## What is the project about?

The Screen and Media Innovation Lab (SMIL) will provide a research-led, industry-facing research facility covering Film and Broadcast, Animation, Immersive (VR/AR/MR) and Games Development. It will provide the city-region with a world-leading research and innovation centre driving the convergence of creativity, content development, technology and digital delivery.

It will provide:

- Transformative production, studio and research and development (R&D) facilities (c.5,500m<sup>2</sup>)
- Cutting-edge digital accelerators and incubation space
- A cultural nexus to drive networking and intensive engagement with the sector
- Access to a range of innovative programmes to upskill the creative economy workforce

## Why is it a good idea?

This project will build upon the growth to date in the creative sector including the success of Future Screens NI (2018-2023), a £15m non-capital proposal that has secured £5.5m of highly competitive UK-wide funding through the Arts and Humanities Research Council (AHRC)/Industrial Strategy Challenge Fund creative economy scheme. An additional £2m of resource funding is being sought from Invest NI at 100% of eligible project costs. Despite its success and significance, there is a low level of infrastructure to support creative industries in Northern Ireland compared to other UK regions.

SMIL will deliver the competitive infrastructure, which is present in competitor cities, to support small, medium and large scale projects and to develop innovative models of production. The facility will have global reach from a base in the city region and will ensure the growth and sustainability of the sector beyond the next decade. SMIL will enable much needed scalability by supporting start-up, small, and medium size companies to respond rapidly, to harness digital and other technology-led innovation to deliver sustainable growth.

## Estimated Returns on Investment?

- Will support 2900 direct and indirect jobs
- Grow GVA by £340m
- Create 7 start-ups
- Attract 7 FDI partners
- Engage 2000 disenfranchised young people

## How much will it cost?

Up to £48m capital funding for building, including £4m of capital equipment.

## Who will pay for it?

Treasury contribution (Indicative £33m)

Balance of funding from University and partner sources