

# Scotland's Innovation Centres

## Driving Demand Led Innovation



**Innovation  
Centres**

Supported by The Scottish Funding Council,  
Highlands and Islands Enterprise and  
Scottish Enterprise.

# Scotland's Innovation Centres



Innovation Centres blend academic creativity and invention with industrial insights of markets, customers, timelines, value and impact

## A Culture of Innovation

With the backing of £120m in funding from the Scottish Funding Council, our Innovation Centres are poised to become high valued partners to businesses across a range of sectors. Designed by industry for industry-led collaboration, we have academia and the enterprise agencies of Scotland firmly on board. Each centre has the specialist knowledge to support businesses to understand the underlying science and to design and develop the technology they require to deliver new products, processes and services to their customers.

Whatever the challenge, whether improved oil extraction efficiency or enhanced healthcare delivery, the Innovation Centres can and do play a significant role in helping industry to deliver effective and transformational solutions. With each of the eight Innovation Centres addressing specific market and sub-sector opportunities, this brochure provides introduction to each:

- **Centre for Sensors and Imaging Systems (CENSIS)** p 3
- **Construction Scotland Innovation Centre (CSIC)** p 5
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## Demanding Innovation

Innovation is the successful exploitation of ideas to make our businesses ever more competitive across international markets and at home. In most, if not all of these markets, it is the key differentiator which shapes Scotland's competitive advantage and helps us win market share.

Innovation is vital to business and helps to drive growth. It defines how we transform the things we do, how we make more from the services we offer and how we improve the things we make.

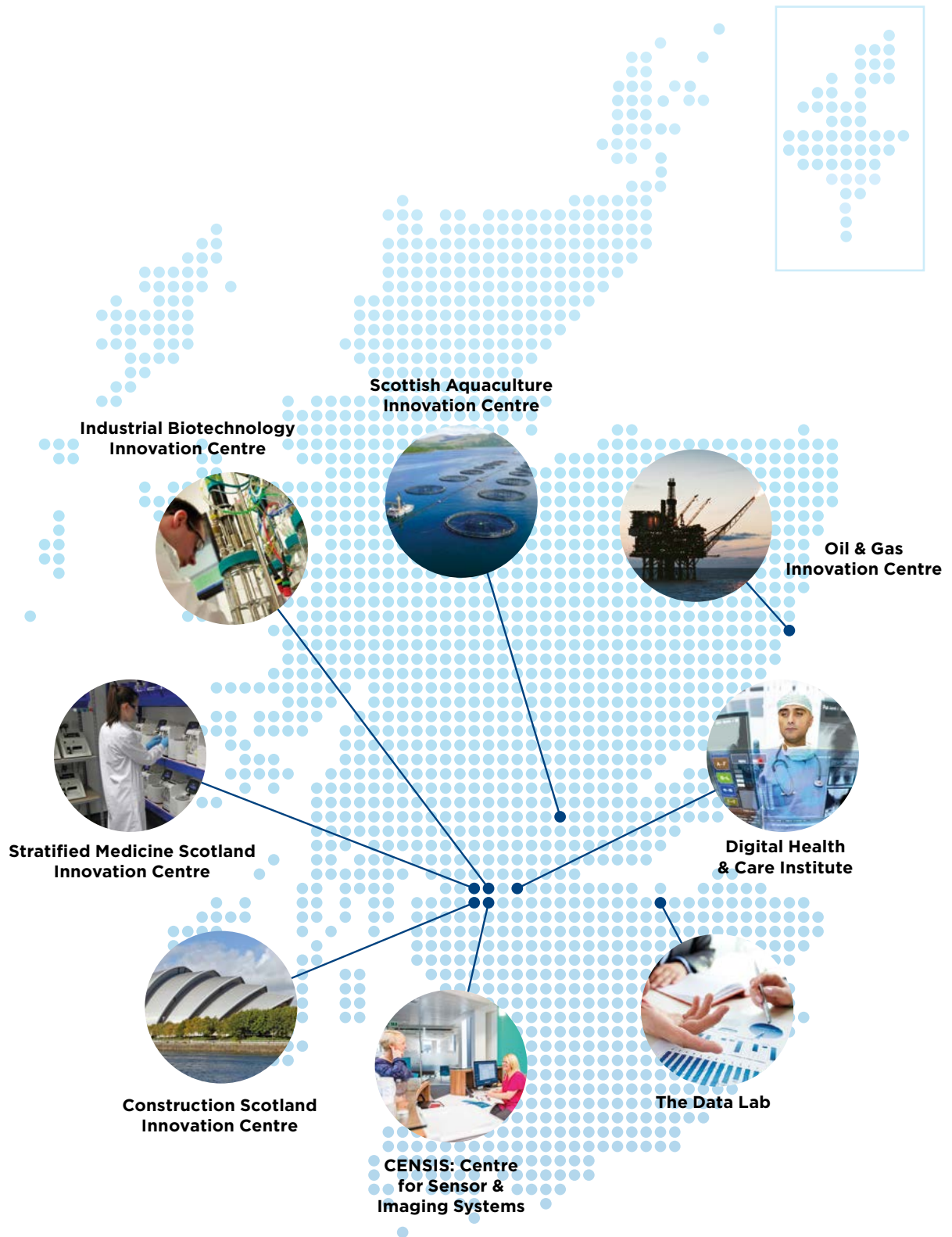
How we innovate has changed. It is no longer happening as an add-on for businesses but as a fundamental part of their plans for success. It is more likely to come from creative collaborations and if Scotland wants to innovate successfully then it is essential that we find the right partners – ones that not only share our vision but also our passion for success.

If your business values innovation as a growth opportunity and sees merit in a collaborative approach, then one of Scotland's eight Innovation Centres could be the perfect partner. Each is a place where creativity of design, engineering and technology are combined to achieve results which bring tangible benefits to Scottish industry. They can provide help at any point along the journey from raw idea through to market entry.

Each of our Innovation Centres work with companies on a confidential one-to-one basis through to open collaborative environments, or any point on the spectrum in-between. Whatever business you are in, there are facilities with the skills and expertise to help you take your company to the next level. So, take a closer look and decide which Innovation Centre is the perfect valued partner for you and your business.



Guided by industry, each Innovation Centre is designed to be a trusted collaboration partner of choice



Targeted correctly, science and technology underpins business innovations which unlock market share across highly competitive global markets



## Sensing opportunities for Scotland



Ian Reid CEO

CENSIS is a centre of excellence for Sensor and Imaging Systems (SIS) technologies. We enable leading industry innovators and world-class university researchers to collaborate at the forefront of market-focused SIS innovation, developing products and services for global markets.

Our vision is to be an internationally renowned, business-driven centre for SIS innovation; recognised for the economic impact achieved by creative partnerships between industry, universities, and user community members.

We work with industry to support collaborative R&D projects in response to company need, helping assemble fundable projects and guiding industry to leverage finance through partnering with the Scottish research community. We also offer opportunities for employee training and development, and opportunities to recruit bright graduates for your organisation via the one-year MSc in Sensor and Imaging Systems, and the four-year Engineering Doctorate (EngD) degree.

### Why get involved?

Sensor and Imaging Systems is a key enabling technology to achieve quality, efficiency and performance across a range of key markets including:

- **Manufacturing and logistics**
- **Subsea, offshore and marine**
- **Natural and built environment**
- **Renewables, energy extraction and energy generation**
- **Defence**
- **Intelligent transport**
- **Agriculture**
- **Life sciences**
- **Food and drink**

CENSIS supports Scottish-based businesses in developing SIS projects and in finding resources to realise their SIS objectives. We also have in-house engineering (hardware and software) and project management capabilities to become one of your project delivery partners should this be required.

CENSIS has funds that can be used to support the costs of any Scottish university project partners. As well as CENSIS funding, we can help you access funding from Scottish Enterprise, Highlands and Islands Enterprise, Innovate UK, Horizon 2020 and other specialist sectoral funding schemes.





For businesses, CENSIS bridges the gap between university research and industrial uptake, providing a supportive and business-friendly environment for companies of all sizes across a range of markets. We can help you:

- Respond to technical challenges
- Transform ideas into new products and services
- Identify and deliver innovation for your business
- Access research experts from across the university base
- Connect you to a wider network of companies
- Identify elements in a project supply chain to allow the creation of collaborative projects with greater strategic impact
- Build a consortium of collaborating companies through our wider industry and end-user connections

Work with us and access:

- Our expertise in sensors and their applications including our cross-sectoral knowledge base
- Our in-house engineering and project management capabilities
- Our understanding of full supply chains to optimise exploitation opportunities
- Our relationships with academic partners and capabilities in Scotland's world-leading universities
- A network of funders and strategic partners

**CENSIS**  
**Inovo Building**  
**121 George Street**  
**Glasgow**  
**G1 1RD**

**Tel** +44 (0) 141 330 3876  
**Email** [info@censis.org.uk](mailto:info@censis.org.uk)  
**Web** [www.censis.org.uk](http://www.censis.org.uk)  
**Twitter** @CENSIS121

# Construction Scotland Innovation Centre



Stephen Good CEO

## Building value through innovation

The Construction Scotland Innovation Centre offers support to all construction-related businesses across Scotland, from architects to contractors both large and small. We will work with you to understand your business and support you with the expertise and services you require quickly and efficiently.

We are interacting with businesses at all levels to pull together tailored innovation support for the construction industry across Scotland. More than 500 businesses spanning five areas have already told us their needs - which has allowed us to develop our priority themes:

- **Environment**
- **Infrastructure**
- **Advanced construction**
- **Energy and ICT**
- **Design and performance**

### Why get involved?

Our innovation support streams focus on four key opportunity areas defined by industry:

- **Business**
- **Product**
- **Process**
- **Service**





Our aim is to support and link expertise around the country to find solutions to your innovation challenges. We believe true collaboration can successfully encourage innovation.

We can help you to develop your ideas by offering:

- **Support to help you access innovation expertise**
- **Access to prototyping and testing facilities**
- **Facilitation of training and education**
- **Collaboration, networking, partnering and knowledge sharing opportunities**
- **Access to potential funding**

We are here to connect you to the best expertise for your business, help you overcome potential challenges and support you for as long as you need with your innovative ideas.

Within the next five years we aim to support over 250 projects. Please get in touch to make your innovation project one of them. Our door is always open and we want to hear from you.

**Construction Scotland  
Innovation Centre  
100 Borron Street  
Glasgow  
G4 9XE**

**Tel +44 (0) 141 212 5250  
Email [hello@cs-ic.org](mailto:hello@cs-ic.org)  
Web [www.cs-ic.org](http://www.cs-ic.org)  
Twitter @CScotIC**





## Creating Innovation and Collaboration in Health and Care



Justene Ewing CEO

The Digital Health & Care Institute (DHI) helps address modern health and care challenges through the development of new ideas for cutting-edge digital health technology and information services. We need to find smarter, more effective ways of managing and delivering health and care services and the advances in technology present huge opportunities to build more effective, fit-for-purpose, patient-centred health and care services.

Founded in 2013 in collaboration with the University of Edinburgh, Glasgow School of Art and NHS24, DHI bring together people and organisations to develop new ideas and technology that will improve the delivery of health and care services.

DHI partners and members have created a community of like-minded people, who contribute insight, know-how, funding and research to help turn the spark of an idea into something that can make a real impact in how health and social care is delivered. Crucially, DHI's ideas must lead to viable and affordable products and services that can be brought to market in Scotland and beyond, establishing Scotland as an exporter of digital health and care technologies.

### Why get involved?

If you have a great idea for a digital health or care innovation and would like DHI's support to develop it, please get in touch. DHI will assess your idea, ensuring it provides business, academic and civic value and if successful, your idea will be directed to one of three stages:







- **Exploratory:** Your idea will be measured against the most current, diverse and relevant research, innovation and knowledge sources. This provides a crucial horizon scanning capability, ensuring we are designing and innovating cutting-edge technology for the future.
- **Laboratory:** Our 'Experience Laboratories' provide an environment where service users (practitioners and patients), businesses and researchers can collaborate and rapidly prototype in response to health and care challenges. Experience Laboratories can replicate real life scenarios and use design input to trial new ideas, technology, services, roles and behaviours.
- **Factory:** Industry, health and care, third sector and academic partners will help to develop your idea into a commercial solution for real life health and care challenges. The Factory stage offers access to expertise and test environments, business mentoring support and facilitation to source funding.

Digital Health & Care Institute  
Suite 2A, Maxim 3  
Parklands Avenue  
Eurocentral  
ML1 4WQ

Tel +44 (0) 1698 535 300  
Email [support@dhi-scotland.com](mailto:support@dhi-scotland.com)  
Web [www.dhi-scotland.com](http://www.dhi-scotland.com)  
Twitter @dhiscotland

Make contact with us by becoming a member today at [dhi-scotland.com\sign\\_up](http://dhi-scotland.com/sign_up). Becoming a member of DHI gives you access to funding opportunities, information, resource, and the opportunity to connect with a network of potential partners. Membership is open to anyone who would like to initiate or collaborate with us on a project and for those who want to keep up to date with the DHI and the advancements made within the digital health and care world.

# Industrial Biotechnology Innovation Centre



## From concept to adoption, enabling bio-based growth



Roger Kilburn CEO

At the Industrial Biotechnology Innovation Centre we accelerate and de-risk the development of commercially viable, sustainable solutions for high-value manufacturing in chemistry using life science sectors. We are building an innovation and growth engine for Industrial Biotechnology to support business expansion across Scotland. We are creating new companies and enabling others to expand their portfolio or reduce cost and environmental impact. We are positioning Scotland as a key player in the bio-economy increasing and sustaining business revenues, prosperity and employment and also underlining the country's commitment to environmentally sustainable growth and development.

Our areas of focus are:

- **Sustainable feedstocks**
- **Biocatalysis/biotransformation**
- **Cell factory construction and process physiology**
- **Downstream processing**
- **Integrated bioprocessing**

These opportunities span many industry growth sectors including:

- **Chemical and life sciences**
- **Renewable energy and oil and gas**
- **Food and drink**
- **Textiles and engineering**

### Why get involved?

Our mission is to play a leading role in supporting innovation led growth of the Industrial Biotechnology sector in Scotland.

We provide expert support and create an environment for networking, establish academic and industrial collaboration, and mentor organisations in developing ideas from first concept through to industry adoption. We can help you:

- **Understand where biological processes can benefit your business and can be integrated into your operation**
- **Increase your capacity to innovate and develop new products, processes and technical capabilities**
- **Reduce your carbon footprint by fully utilising any waste streams/ co-products**



- **Support the development of bio-refineries, related bio-processes and supply chain**
- **Develop new pilot facilities to allow demonstration of new processes at scale**
- **Enhance the skills of your workforce through training from HNC to PhD level**
- **Participate in a network of relevant industry, world-leading academics and Industrial Biotechnology organisations globally**

We plan to make a real and measureable contribution to Scotland's Industrial Biotechnology growth ambitions by 2020, which include:

- **Generation of more than £400 million of Industrial Biotechnology sales Scotland-wide**
- **Creation of 1,500 new jobs in the sector**
- **Securing inward investment projects worth more than £140m**
- **Creation of more than 25 start-up businesses**

If your company shares our ambitions for growth and you want help to understand how Industrial Biotechnology processes could create a step change in your business then please take a closer look at what we do. Talk to our collaborators and, most importantly, ask us how we can bring value to your organisation.

**Industrial Biotechnology  
Innovation Centre  
Inovo  
121 George Street  
Glasgow  
G1 1RD**

**Tel +44 (0) 141 548 5946**

**Email [info@ibioic.com](mailto:info@ibioic.com)**

**Web [www.ibioic.com](http://www.ibioic.com)**

**Twitter @IBioIC**

# Oil & Gas Innovation Centre



## Supporting innovation for the oil and gas industry



Ian Phillips CEO

At the Oil & Gas Innovation Centre (OGIC), we foster, encourage and fund technology innovation.

We connect oil and gas companies with new ideas to the world-class research expertise that exists within Scotland's universities. By enabling this partnership, and potentially part-funding the university research, we help the industry to address issues such as:

- **Productivity and recovery rates in the UK Continental Shelf**
- **Rising operating costs**
- **Decommissioning technology gaps**

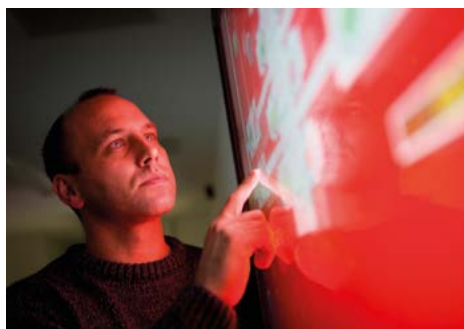
Our remit is broad – we welcome project ideas which can be applied across a spectrum of established and new areas of operation.

All OGIC projects must be innovative, must involve university input and ultimately must be of benefit to the oil & gas industry.

Companies with innovation and technology challenges approach OGIC seeking help to either develop completely new technologies, improve existing equipment or services or to import and adapt proven innovations from other industries.

Our role is to help the company find the right academic partner, with appropriate research capability, facilities or specialised equipment, and to part-fund the academic project.

We also provide in-house technical capability and project management support, enabling a rapid route to problem solving.







### **Why get involved?**

OGIC's match-making service links supply chain companies, usually SMEs, who have identified a particular problem that academic expertise can help solve. Following an initial discussion and agreement with the SME, OGIC will circulate the company's requirements to business development teams in all 14 Scottish universities and senior research academics, who have oversight of the capability that exists within the university.

**Finds** relevant university capability and know-how for your project.

**Funds** up to 50% of university project costs, covering academic research; the use of test and lab facilities and a range of university staff inputs.

**Supports** your project with our in-house technical knowledge and project management.

**Makes it all happen** with straightforward systems and processes.

Our team at OGIC will help you find the most suitable university partner and provide funding to nurture, develop and test your innovative ideas.

**OGIC - the Oil & Gas Innovation Centre**  
**Aberdeen Innovation Park**  
**Balgownie Road**  
**Bridge of Don**  
**Aberdeen**  
**AB22 8GT**

**Tel** +44 (0) 1224 444 000

**Email** [info@ogic.co.uk](mailto:info@ogic.co.uk)

**Web** [www.ogic.co.uk](http://www.ogic.co.uk)

**Twitter** @OGICInnov8



## Industry success through research partnerships



Heather Jones CEO

The Scottish Aquaculture Innovation Centre promotes effective collaboration between Scotland's aquaculture industry and academia.

We are utilising the strength of the research base in Scotland to address the industry's key issues and opportunities and prepare it for the future.

Our areas of interest include:

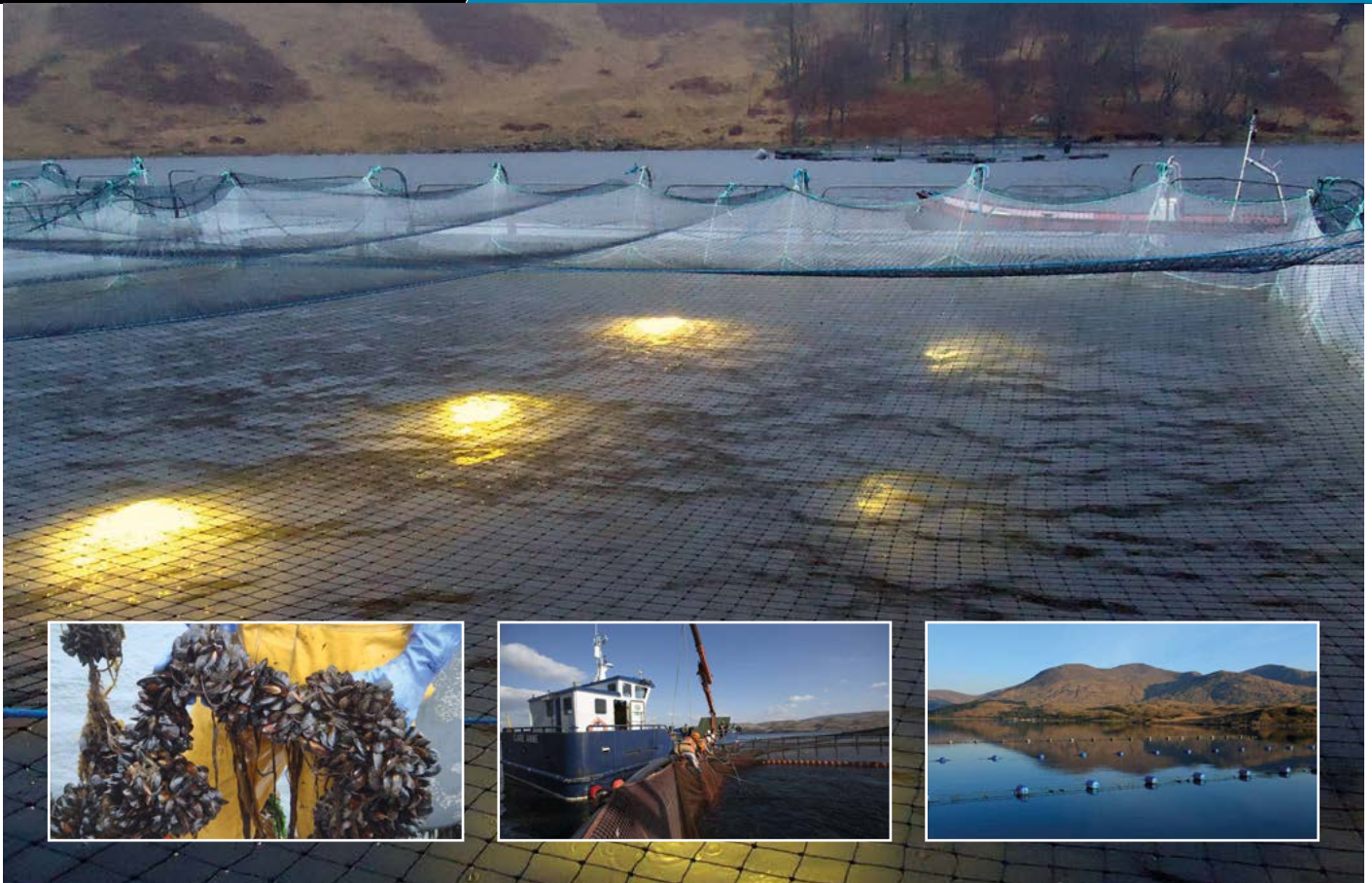
- **Finfish and shellfish health and welfare**
- **Sustainable feeds, flesh quality and nutrition**
- **Breeding and stock improvement**
- **The application of engineering and automation solutions**

We connect a wide variety of researchers and businesses with the aim of generating commercial success, economic growth and a more sustainable industry. To instigate and accelerate commercially-relevant solutions that address aquaculture's pressing issues, we work with companies of all sizes from SMEs to multinationals and at points along the entire aquaculture supply chain from hatcheries to retailers. We work with businesses and researchers across all aquaculture related areas from genetics to engineering and, in the case of researchers, at all career stages from MSc students to professors.

### Why get involved?

We support innovation across all aspects of the aquaculture industry, and across the supply chain. If you have an interest in using innovation to drive your business growth then we can help you in the following ways:

- **Funding solution-oriented research, from rapid response projects to large scale exemplar projects**
- **Development of a new product, process or service**
- **Connecting with potential collaborators in industry and academia**
- **Driving collaboration with other partners, whether researcher or funder**
- **Supporting skills development, connecting you to skills and training, from Modern Apprenticeships to MSc and PhD researchers working on your company's issues**
- **Highlighting the benefits of aquaculture for the Scottish, UK and world economies**



Aquaculture is already a major contributor to the Scottish economy:

- **It contributes almost £1.4 billion turnover and 8,000 jobs to the Scottish economy and £1.8 billion turnover to the UK**
- **Scottish salmon is the UK's largest single food export, with exports generating £500+ million in 2014**
- **Scotland is the largest salmon producer in the EU and third largest in the world**

Globally, it is forecast that by 2030 aquaculture will supply over 60% of fish consumed worldwide. If your business wants to be part of this international growth opportunity and you have a new idea or requirement for innovation, we would love to hear from you to explore how and where we can help.

Sign up to our Connect & Collaborate service on our website.

**Scottish Aquaculture Innovation Centre**  
Scion House  
Stirling University  
Innovation Park  
Stirling FK9 4NF

**Tel** +44 (0) 1786 278 322  
**Email** [info@scottishaquaculture.com](mailto:info@scottishaquaculture.com)  
**Web** [www.scottishaquaculture.com](http://www.scottishaquaculture.com)  
**Twitter** @scottishaqua

# Stratified Medicine Scotland Innovation Centre



## The right drug for the right patient at the right time



Dr Mark Beggs CEO

Stratified Medicine Scotland Innovation Centre is a unique collaboration in life sciences. We have brought together leading experts from industry, the National Health Service (NHS) and academia with the common aim of developing safer, more effective therapies and diagnostic tools for the management of chronic diseases.

We partner with leading centres of expertise in Scotland including:

- **Medical schools of the Universities of Aberdeen, Dundee, Glasgow and Edinburgh – with access to leading clinical investigators**
- **The four largest NHS Boards – Greater Glasgow & Clyde, Grampian, Lothian and Tayside – which have access to over 80% of the Scottish population**
- **Companies including ThermoFisher, with their unique Ion Torrent™ NGS sequencing platform and Aridhia Informatics with their long experience in managed services around big data, computing applications and analytics**
- **A network of partner companies offering additional genome sequencing platforms and other specific service companies with unparalleled local expertise in the delivery of stratified medicine solutions**

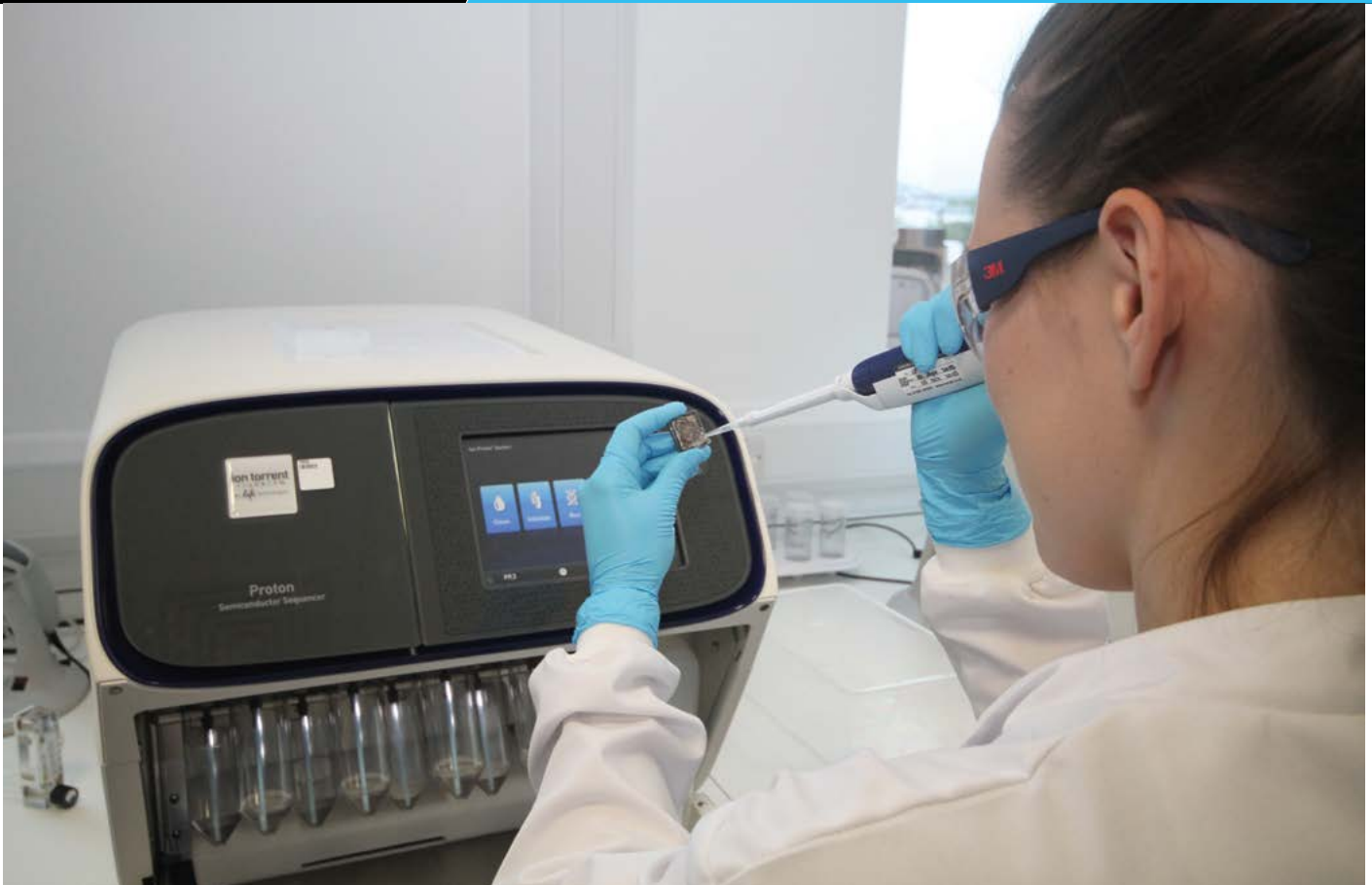
We operate from a purpose-built facility at the Queen Elizabeth University Hospital, Glasgow which contains a 10,000ft<sup>2</sup> laboratory and high performance computing centre (HPC). Partner organisations including Aridhia are co-located creating a true centre of excellence in precision medicine with capability to directly access NHS clinicians and patients.

### Why get involved?

We work with a range of organisations including:

- **Pharmaceutical and Biotech companies** – both local or global – in need of research and clinical development support
- **Healthcare providers** looking to optimise treatment options
- **Organisations in need of** consultancy and other technical support in stratified medicine
- **Medical diagnostic companies** looking to develop disease-specific genetic based screening panels
- **Academic institutions** seeking collaboration partners for individual research projects
- **Life sciences companies** looking for local genetic sequencing expertise and support outside the fields of human health





The Stratified Medicine Scotland-Innovation Centre concept has been successfully tested using key projects in the fields of ovarian cancer, oesophageal cancer, inflammatory bowel disease, COPD, multiple sclerosis and rheumatoid arthritis to answer pharmacogenomics questions.

Appropriate access can be afforded to our clients and partner organisations in order to support their own commercial product development and other bespoke projects can be established to suit clients' specific needs. We want to apply our strengths in Stratified Medicine to your challenges. Our unique proposition includes:

- **Access to a population base of 5.3 million – large enough for meaningful analysis yet relatively tractable and stable**
- **Over 99% of the population receives its healthcare provision through a single healthcare provider – the NHS.**
- **Electronic health record system operating on a national scale with a unique common field identifier (CHI number) allowing characterisation and longitudinal follow up of well-defined patient cohorts**
- **Significant incidence of major chronic disease for study**
- **Genotype and phenotype data generated from Scottish cohorts with global application**

If you need access to the practice of stratified medicine we want to be your partner of choice.

**Stratified Medicine Scotland  
Innovation Centre  
Level 3, Teaching and Learning Centre  
Queen Elizabeth University Hospital  
1345 Govan Road  
Glasgow  
G51 4TF**

**Tel +44 (0) 141 451 1263  
Email admin@stratmed.co.uk  
Web www.stratmed.co.uk  
Twitter @stratmedscot**



## Helping industry across Scotland to capitalise on a growing market opportunity in data science



Gillian Docherty CEO

The Data Lab enables industry, the public sector and world-class academics to innovate and develop new data science capabilities in a collaborative environment. Our core mission is to generate significant economic, social and scientific value from data for Scotland.

With hubs in Aberdeen, Edinburgh and Glasgow, The Data Lab is focused on building relationships locally and delivering a range of activities that span three key areas:

- **Collaborative innovation** – with a focus on strengthening Scotland’s industry and transferring world-leading research from Scotland’s universities, we will help develop and support a series of industry-led collaborative innovation projects
- **Community building** – we connect world-leading researchers and data scientists with industry and public sector organisations, giving them access to experts through sandpit and workshop events, data science conferences and guest lectures
- **Skills and training** – we work with industry to create a pipeline of talented data scientists, equipped with the relevant skills through The Data Lab MSc programme, PhD funding, placements and secondments, online learning and Continued Professional Development

We target applications across five sectors:

- **Digital technology**
- **Energy and utilities**
- **Financial services**
- **Public sector**
- **Healthcare**

Big data represents a huge growth opportunity with 90% of all the data in the world created in the past two years. Companies that use ‘big data’ are five times as likely to make decisions faster than market peers; and organisations using advanced data are twice as likely to be sector leaders. We estimate there is £17 billion of new revenue opportunity within Scotland alone for new data solutions and we can help your organisation benefit from these opportunities.



### Why get involved?

Backed by £11.3 million of public investment, our expert team will actively kick-start, fund and deliver collaborative innovation projects, develop data science talent, and bring the data science community together in Scotland.

- For **businesses**, we can help you to engage with academia, whether for a quick-start funded project or longer term research programmes
- For **academics or researchers**, we can help you promote your university's research capabilities and match them with a business or public service organisation so they can use data science skills and experience to bring joint ideas to fruition
- For **public sector organisations**, we can help you to explore partnerships with business and academia to promote the use of data science to improve service delivery. Or if your organisation is making 'open data' available, we can help you share what you are doing with business and academia

**The Data Lab**  
15 South College Street  
Edinburgh  
EH8 9AA

Tel +44 (0) 131 651 4905  
Email [info@thedatalab.com](mailto:info@thedatalab.com)  
Web [www.thedatalab.com](http://www.thedatalab.com)  
Twitter @DataLabScotland

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If you require this publication in an alternative format please contact the Scottish Enterprise Helpline on 0845 607 8787 to discuss your needs.

Scottish Enterprise  
Atrium Court  
50 Waterloo Street  
Glasgow  
G2 6HQ

Helpline: 0845 607 8787  
Email: [enquiries@scotent.co.uk](mailto:enquiries@scotent.co.uk)

**[www.scottish-enterprise.com](http://www.scottish-enterprise.com)**

