

Technegol, ymarferol,
yn gyson arloesol
Technical, practical
and always innovative

Arloesi Bwyd
Cymru
Food Innovation
Wales



Food Innovation Wales Report 2016-18



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Our mission

Food Innovation Wales's mission is to:

- stimulate innovation and support new product development which benefits food and drink companies
- work together to meet the needs of food and drink companies
- share scientific, technical and other relevant information including statistics and research
- contribute actively towards achieving Welsh Government's ambitious goals for the development of the food and drink industry in Wales
- respond to technical enquiries from food and drink companies.




CANOLFAN TECHNOLEG BWYD
FOOD TECHNOLOGY CENTRE
Grŵp Llandrillo Menai

 Canolfan Bwyd Cymru
Food Centre Wales

Food Industry Centre
Cardiff Metropolitan University
ZERO2FIVE
Canolfan Diwylliant Bwyd
Prifysgol Metropolaidd Caerdydd

Introduction

Food Innovation Wales provides support, advice and creative ideas to help food and drink companies grow, innovate, compete and reach new markets. From new start-ups, to established companies, and multinational food and drink manufacturers, Food Innovation Wales is on hand to provide technical and operational support.

Based at three food centres across Wales, our team of internationally recognised industry experts help clients navigate their way through a complex range of food disciplines, including nutrition and dietetics, environmental health, new product development, factory and workplace design, quality assurance, hygiene, food safety, marketing and efficiency.

Food Innovation Wales, backed by Welsh Government, brings together:

- Food Centre Wales, based in Ceredigion, West Wales
- Food Technology Centre, based at Coleg Menai: Grŵp Llandrillo Menai, Anglesey
- ZERO2FIVE Food Industry Centre, based at Cardiff Metropolitan University

Since June 2016, Food Innovation Wales has been responsible for delivering Project HELIX, a pan-Wales strategic initiative supported by £21 million through the European Agricultural Fund for Rural Development. The project aims to increase production and reduce waste in the food and drink industry.

Food Innovation Wales also delivers a range of other strategic projects and support, including helping food and drink companies overcome barriers to third party accreditation, addressing the skills shortage in the sector, academic research, trade shows and events, foreign direct investment and trade missions.

This report provides an update on Project HELIX's progress against its key objectives and a summary of Food Innovation Wales's other work for the time period 9th June 2016 until 31st May 2018.

Eirlys Lloyd
Food Centre Wales

Martin Jardine
Food Technology Centre

David Lloyd
ZERO2FIVE Food Industry Centre



The Food Centres



Food Centre Wales, Ceredigion West Wales

Food Centre Wales provides technical services to business start-ups, SMEs and national food manufacturers, and also plays a strategic role in supporting the Welsh food industry. Established in 1996 by Ceredigion County Council, Food Centre Wales delivers high quality knowledge transfer, advice and practical support to businesses in a wide range of food sectors throughout Wales and further afield.

Over two decades on, Food Centre Wales has developed an enviable reputation, a suite of modern facilities and a comprehensive menu of consultancy and advice services. The Innovation and Manufacturing Hub boasts four separate process areas, as well as smaller trial kitchens allowing clients to test the latest equipment to develop new food products. Food Centre Wales is also proud of its commercial manufacturing capabilities, which includes consultancy services in relation to third party accreditation, factory design, food safety, legislation, new product development and product assessment, all of which are delivered by a professional team with broad industry experience.

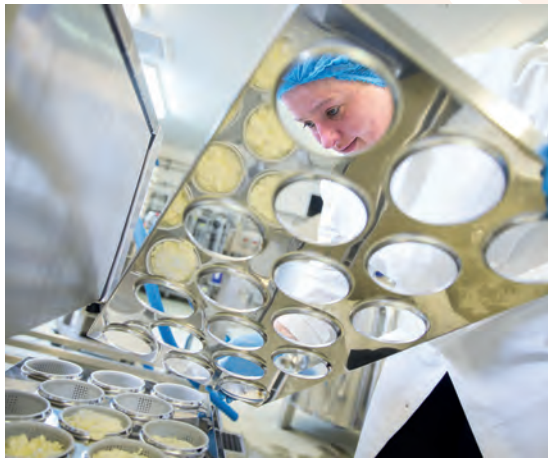
The Centre also manages four specially designed incubator units to give start-ups industry standard premises and a supportive environment in which to establish a firm foothold in the industry.

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Food Technology Centre, Anglesey, North Wales

Based at Coleg Menai in North Wales, the Food Technology Centre plays a key role in transferring knowledge to the food and drink industry in Wales and internationally. Working with new start-ups, SMEs and national companies, the Food Technology Centre has dedicated resources which enable food businesses to access technical support, practical solutions, advice and guidance on areas which are key to business growth. The range of support available includes third party accreditation, new product development, product reformulation, training, pilot production, food safety systems and analytical testing.

With dedicated processing halls for red meat, fish, dairy and prepared foods, the Centre is equipped with an extensive range of modern pilot and industrial scale equipment to undertake all aspects of new product development through to a successful product launch. These facilities allow the client to manufacture products on a pilot scale in order to secure sales from retailers and final consumers before investing heavily in equipment.

With the long term objective of developing food and drink businesses' processing and manufacturing capacity, the Centre aims to further develop Wales's and the UK's reputation for producing and manufacturing innovative food and drink that is of the highest quality.

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ZERO2FIVE Food Industry Centre, Cardiff, South Wales

The ZERO2FIVE Food Industry Centre at Cardiff Metropolitan University brings together a unique collaboration of industry-experienced technical and operations managers and world renowned scientists.

ZERO2FIVE engages with food and drink companies and organisations of all sizes and stages of growth and provides support with factory design, start-up advice, new product development, third party accreditation and global food standards compliance (including BRC and SALSA), food safety and security, food and labelling legislation, nutrition, market analysis and marketing. In addition, ZERO2FIVE provides strategic technical direction for inward investment and export initiatives.

ZERO2FIVE's state-of-the-art facilities are available for use by food and drink companies and include:

- food processing and development units for low and high risk foods, bakery and confectionery
- development kitchens
- Wales's largest sensory evaluation suite.

ZERO2FIVE has developed international partnerships with manufacturers, legislative bodies and research organisations, providing the food and drink manufacturing sector with a 'best in class' application of expertise, science and knowledge.

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Introduction to Project HELIX

Project HELIX is a pan-Wales strategic initiative being delivered by the three food centres that make up Food Innovation Wales. The project is supported by £21 million through the European Agricultural Fund for Rural Development.

Launched in June 2016, Project HELIX delivers academic and practical knowledge transfer activity to food and drink producers and manufacturers across Wales that is focused on innovation, efficiency and strategy. Food and drink businesses have access to a range of short, medium and longer term interventions

that aim to increase production and reduce waste in the supply chain.

Working closely with the Welsh Government, academia and the food industry, the Food Innovation Wales team has set ambitious targets for innovation, job creation and economic growth within the sector.

The support businesses receive under Project HELIX can be categorised into 18 different actions, each of which falls under the three strategic areas of food innovation, food efficiency and food strategy:

Food Innovation	Food Efficiency	Food Strategy
New Product Development	Systems Development	Innovation Framework
Technical Information	Process Controls	3rd Party Accreditation
New Business Start Up	Product Efficiency	Public Engagement
Added Value	Site Design	Industry Intelligence
Food Legislation	Packaging	Food Business Development
Product Reformulation	Validation of Systems	Training, Mentoring & Skills



David Lloyd (ZERO2FIVE Food Industry Centre), Eirlys Lloyd (Food Centre Wales) and Martin Jardine (Food Tecnology Centre) launching Project HELIX

Project HELIX outputs

The outputs generated by Project HELIX to date have been significant. This is especially notable as this phase has also required the establishment of the necessary operational, measurement and validation systems prior to project delivery. The level of outputs achieved demonstrates that the services provided are ones needed by the industry.

Commentary on specific outputs

Number of Actions supported - This relates to the 18 different categories of support that Project HELIX can provide. The range of knowledge transfer projects requested by the private sector already encompasses 16 of the 18 actions.

Number of Training Days given - This refers to bespoke training to the food and drink industry and leads to innovation in training as the subject is entirely led by the client company's specific needs.

Numbers of Participants in Training - Companies have engaged fully with Food Innovation Wales to develop interventions designed to improve company performance and develop skills within the sector across Wales.

Enterprises Assisted - A company is only classed as assisted when all contract documents are in place and a minimum of seven hours of the identified knowledge transfer intervention has been delivered.

Impact - Impact is defined as the combination of new and retained sales and anything else that can be proven to have had a financial impact on a company (e.g. cost savings, waste reductions and efficiencies) as a result of the intervention of Project HELIX.

Number of New Markets Accessed - These new markets accessed have made a significant contribution to new sales, jobs created and company growth.

Number of Jobs Created - This figure includes both validated and non-validated jobs created. Project guidelines require that new jobs are validated after 12 months and must be full time equivalents.

Number of New Products - Pushing the boundaries of food innovation is key to accessing new markets and achieving sustained economic growth for the food and drink industry in Wales.

Jobs Safeguarded - This refers to jobs that are retained through knowledge transfer activity with client companies within Wales.

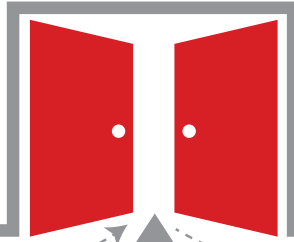
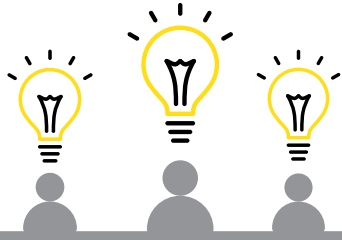
New Businesses - The number of new start-up companies that Project HELIX has supported is indicative of the vibrancy of the sector and the sustainability of the food and drink industry in Wales.

Key Performance Indicator	Outputs to 31st May 2018
Number of Actions Supported	16
Number of Training days given	173
Number of Participants in Training	217
Enterprises Assisted	172
Impact	£44,254,875
Number of New Markets Accessed	77
Number of Jobs Created	147.4
Number of New Products	203
Jobs Safeguarded	869
New Businesses	92

Turning bright ideas...



...into practical reality



Reaching every corner of the country...



...172 pan-Wales businesses assisted

Creating a skilled workforce that's able to meet tomorrow's challenges...

173 training days given for 217 participants



Constantly breaking down the barriers to growth...



New

203 new products developed

77 new markets accessed

92 new businesses supported

Playing a vital economic role in our local communities...

147 jobs created and a further 869 safeguarded

Sharing our expertise through knowledge transfer...



16 actions supported

Having a positive impact on our vibrant food and drink industry and helping it play a leading role in the future wellbeing of our nation...

OVER

£44 MILLION impact to food and drink businesses

Other activities delivered by Project HELIX

Start-up Surgeries

Food Innovation Wales has established a series of monthly start-up surgeries for entrepreneurs who are looking to establish new food and drink businesses. These surgeries provide an overview of the key technical and business issues that need to be considered before launching a business. Funded through Project HELIX, the sessions provide new businesses with an opportunity to discuss their ideas with a food technologist, view the manufacturing and innovation facilities available at the centres, and find out about the range of support available through other providers.

Going for Growth

In 2017, Food Innovation Wales hosted an event for food businesses in Mid and West Wales focused on growing their business to reach new markets. Over 30 different food producers, varying from start-up businesses to SMEs and national companies, attended the event. Speakers covered market trends and data, supermarket buyer requirements and two food companies shared

their business growth journeys. A series of 1-2-1 sessions followed with food technologists, partner organisations and business support providers. The success of the event has led to a similar event being arranged in Powys later this year (October 2018).

Farm Business Innovation Show

Food Innovation Wales attended the Farm Business Innovation Show, the UK's premier farm diversification event in the NEC in Birmingham where they outlined the support available for farm businesses looking to diversify through adding value to their primary produce. With around a third of the visitors to the show coming from Wales, it represented an ideal opportunity to promote the support available under Project HELIX. Food Innovation Wales further augmented its presence through a speaking slot at one of the event theatres.



Supporting food and drink businesses at our Going for Growth event

Project HELIX testimonials

Jonathan Williams
Pembrokeshire Beachfood Company

“I’m not quite sure what I would’ve done if I hadn’t had help from Food Centre Wales. I know it would have taken me so much longer to get to where I am now and I probably wouldn’t be supplying M&S as I just wouldn’t have been up to speed commercially without their help.”

Dai Miles
Calon Wen

“We have been very fortunate that Food Centre Wales has not only had the commercial dairy facilities to develop our cheese product, but also the knowledge and expertise of the food technologists, who have developed the cheese and trained people to make it for us.”

Dr Sarah Beynon
Bug Farm Foods

“Plunging into food production was initially very nerve wracking, mainly because we wanted to do it properly. However, the support and guidance from Food Centre Wales was fantastic and totally put our minds at rest. We had the peace of mind that we were doing it properly from day one and that we weren’t making any mistakes.”

Scott Davies
Hilltop Honey

“We have worked with the Food Technology Centre over a number of years and have used their specialist knowledge for several projects, including new product development, accreditation, microtesting and bespoke training. You can trust them to give you the best possible service and I look forward to working with them for several more years.”

Trystan Sion
Family Farms

“We have been working closely with the Food Technology Centre over a couple of years, initially as a new start up but with their help we are now supplying Harlech Food Services. Their assistance with new product development and quality assurance has seen our business grow at a rapid pace, which has ensured that ‘Family Farms’ has become sustainable and profitable.”

Rufus Carter
The Patchwork Pâté Company

“Patchwork Pâté has been established for over 30 years but last year we faced a challenge which if it wasn’t for the assistance of the Food Technology Centre, would have rocked the foundations of the business with possible contract losses, decreased turnover and ultimately job losses. Working together with the Food Technology Centre has now ensured our business is in a stronger position to take on new contracts, increase turnover and create new jobs. We also recently won one of the largest contracts in Patchwork’s history thanks to a bespoke validation from them.”

Mhairi Hill
Welsh Hills Bakery

“The technical support programme provided by ZERO2FIVE through the HELIX project has been instrumental in developing the workforce with regards to food hygiene training and internal audits of the technical system to ensure we comply with customer requirements and the BRC Global Standard for Food Safety. It has also been a great support in helping to change the culture of the production and packing operatives with regards to good manufacturing practices.”

Angharad Underwood,
The Preservation Society

“For a micro business like ours, it’s difficult to keep up with food industry requirements so the support of ZERO2FIVE has been brilliant and they have made the process really simple and personable.”

Nick Broughton
Peter Broughton Ltd

“The excellent support of ZERO2FIVE in delivering the two Project HELIX partnership programmes has helped us successfully maintain our BRC certification, which is essential for our business to achieve continued growth.”

Other key projects

As well as the support provided under Project HELIX, Food Innovation Wales delivers a number of strategic projects which benefit the food and drink industry in Wales.



Producers' Directory

In February 2018 Food Innovation Wales published a Producers' Directory containing over 400 Welsh food and drink suppliers. The printed directory has been widely distributed at trade events and has been well received by trade partners across the world. The first digital Producers' Directory was also successfully launched in 2018. This enables trade buyers to access Welsh suppliers' details online and for the directory to be updated on a continuous basis.

Fit for Market

Fit for Market is a collaborative project between Food Innovation Wales and Menter a Busnes. The project's objective is to identify growth food and drink businesses and gain an understanding of their future sales and marketing plans. It will also look at the potential threats and opportunities of Brexit to the growth plans and capabilities of businesses in Wales. The project will deliver a mechanism for identifying businesses at the right stage of growth in order to maximise the benefits of support and trade event opportunities.

Overcoming Barriers to Accreditation II

Food safety schemes such as BRC and SALSA are essential to the food and drink industry as they provide a framework for the production of safe and legal food. They are also a key factor in business growth as specific accreditations are required to enter new markets.

Overcoming Barriers to Accreditation II will implement and evaluate effective support mechanisms for micro and small food and drink businesses that are working towards the SALSA standard. The project aims to increase the number of food businesses with accreditation and accelerate the growth of the food manufacturing sector in Wales.

Development of Technical Skills for the Welsh Food and Drink Industry

This project aims to address the skills shortage in the food and drink industry. It has been established that specific groups of employees in many businesses require bespoke training and development in areas of third party compliance. There is also a lack of suitably qualified graduates entering the industry, which is affecting the growth of businesses in Wales.

The project is developing and delivering a series of bespoke workshops to first line managers, non-food scientists and engineers employed in BRC compliant food and drink businesses based in South Wales. A 'bursary mechanism' or similar will also be defined, developed and launched which will aim to trigger an uplift in qualified employees entering the industry.

CEO Cluster

As part of the Welsh Government's cluster development programme, Food Innovation Wales is responsible for the CEO Cluster which brings together CEOs and MDs from selected food and drink SMEs in Wales, along with representatives from Welsh Government and Food Innovation Wales. The cluster aims to support industry growth through collaboration and connectivity. Over 40 businesses are engaged with the CEO Cluster and it has led to these businesses working more closely together and sharing best practice.

Wales Festival of Innovation

Food Innovation Wales has supported 'Wales Festival of Innovation' by holding events which highlight future trends and the innovative work taking place across the three centres. The events have showcased how Wales is at the forefront of future developments, with the aim of inspiring the next generation of innovative food and drink products.

Working with the community

As well as the economic impact of its work, Food Innovation Wales recognises the importance of working closely with the local community. We are actively involved with a number of community projects which benefit future generations, such as the LEADER group, Gorau Môn, Cynnal y Cardi and Môn Larder and actively promote our services to local not-for-profit organisations such as Young Farmers' Clubs, Merched y Wawr, Women's Institute, Antur Waunfawr and the Rotary club.

Working with schools

Food Innovation Wales actively engages with schools across Wales through national careers fairs such as Skills Cymru and individual school events, in order to encourage young people to enter the food and drink industry. Engagement takes place during these events via a range of activities, including sensory evaluation and discussions about the career opportunities available.

Food Innovation Wales hosts an annual residential summer school for sixth form students that is sponsored by the IGD. Attendees take part in practical food science sessions, meet professionals from within the industry and visit food and drink manufacturing facilities.

In 2017, Food Innovation Wales launched a new product development competition for 11 to 16 year olds. Pupils were invited to develop an innovative Welsh recipe and utilise skills that are required by food technologists. Due to the success of the competition, it is returning once again in 2018.

Delivering support

Food Innovation Wales delivers additional support in a number of other key strategic areas to the food and drink industry in Wales.

Trade shows and events

Food Innovation Wales supports the Welsh food and drink industry at trade shows and events throughout the year. Individual producers are supported during their preparations for shows, and technical support is provided to Welsh Government exhibitors at some events.

For example:

- Food Innovation Wales was responsible for the Innovation Zone at the hugely successful BlasCymru / TasteWales event in 2017.
- One of the highlights in the food industry calendar is Food Matters Live at which there is a strong Welsh food and drink presence. This annual show focuses on innovative, healthier products and features over 800 exhibitors.
- Food Innovation Wales supports local shows such as Conwy Feast and Pembrokeshire Food Festival, enabling clients to undertake new product evaluation with the general public and thus capture feedback before launch.

Foreign Direct Investment

The food and drink sector is important for Foreign Direct Investment (FDI) and Food Innovation Wales supports the Welsh Government's FDI team to attract new food and drink companies to locate in Wales. The comprehensive support available to FDI companies includes factory design, ingredients sourcing and new product development.

Food Innovation Wales's facilities, sector expertise and pan-Wales locations are an important part of the unique support package available to companies looking to invest in Wales.

International Trade Missions

In the past 12 months, Food Innovation Wales has supported Welsh Government trade missions to a number of countries including USA, Dubai and Japan. Food Innovation Wales's knowledge and expertise supports Welsh Government officials and Welsh food and drink exporters in developing trade partnerships with key retail, food service and hospitality businesses.

In addition to developing new export markets, overseas visits provide opportunities to meet with food and drink companies with the potential to invest in production sites in Wales. Food Innovation Wales has supported these meetings and events with potential FDI companies.



Academic research

Food Innovation Wales is internationally recognised for its food safety research. The team regularly present at prestigious conferences, including the European Federation of Food Science and Technology, the International Society for Quality in Healthcare, and the International Association for Food Protection.

Research is also published in peer-reviewed scientific journals. For example, a recent study published in the Journal of Food Protection on older adult consumers' knowledge, attitudes and self-reported storage practices of ready-to-eat food products, found potential widespread storage malpractices among those over 60. A time-temperature profiling study of UK consumers' domestic refrigerators, also published in the Journal of Food Protection, established that 91 % of refrigerators were operating above recommended temperatures. The study made headline news and was the focus of a BBC factual consumer programme, Rip Off Britain: Food.

Food Innovation Wales's most recent publication, 'Behavioural observation and microbiological analysis of older adult consumer's cross-

contamination practices in a model domestic kitchen', utilised the research kitchen at the ZERO2FIVE Food Industry Centre, a typical domestic kitchen equipped with CCTV cameras. By combining observation of behaviour and microbiological analysis, the study successfully identified suspected routes of cross-contamination during food preparation.

Food Innovation Wales has also provided support on a project entitled 'Use of Iodised Salt in Food Manufacturing to Improve Iodine Status' in the UK. The aim was to determine the feasibility of fortifying cheese with iodine, being a commonly consumed product, to increase iodine consumption in the population. Trials were carried out in the dairy at the Food Technology Centre and products incorporating iodised salt were then evaluated for any difference in taste, aroma or texture at ZERO2FIVE. The trials are ongoing.

Food Innovation Wales also obtained funding for a PhD student to conduct a study with Castell Howell Foods Ltd. on the assessment of food safety culture related to hand hygiene behaviours.



Future priorities

Over the course of the next 12 months and beyond, Food Innovation Wales will continue to:

- support Welsh food and drink businesses to grow profitably through innovation by developing new products and markets
- provide the Welsh food and drink industry with access to world leading innovation
- deliver the Project HELIX outputs
- support the Welsh Government with world-class facilities and expertise to provide a landscape in which food and drink companies can prosper.

Food Innovation Wales will also play an important role in ensuring that Welsh food and drink companies are prepared for the opportunities and challenges presented by Brexit.