



# MID-TERM PROGRESS REPORT 20 24



UK Research  
and Innovation

# Contents

<b>Foreword</b>	<b>03</b>
About Growing Kent & Medway	05
<b>Pathways to Impact</b>	<b>07</b>
Regional economic growth	07
Delivering inclusive growth	08
<b>Investing in regional business innovation and research and development</b>	<b>10</b>
R&D Infrastructure	10
Grant funding	17
Additional funding	46
No. of enterprises supported & new products to market	53
<b>Clustering, Interactions and Collaborations</b>	<b>57</b>
International collaboration	57
A Centre of Excellence	60
Clustering for Success	64
<b>Business Growth and productivity</b>	<b>73</b>
<b>Advancing opportunity and inclusive growth</b>	<b>76</b>
Community Engagement	78
Engagement and Access for Young People	80
Skills and opportunities	82
Prosperity, Opportunity & Wellbeing	83
<b>Next steps</b>	<b>85</b>
Appendix: Theory of change and logic model	86

# Foreword

It is with great pleasure that I present the Growing Kent & Medway Mid-term Report, a reflection of our progress and dedication to fostering innovation, sustainability, and inclusive growth in the horticultural and food and drink sectors.

Since the inception of the programme, our vision has been to establish Kent and Medway as the UK's leading hub for climate-smart and sustainable food systems, and this report highlights the transformative steps we have taken to make that vision a reality.

Through Kent and Medway's proximity to global markets, its vibrant horticultural landscapes, and the county's rich history of food production, the region is uniquely positioned to respond to the challenges of food security and sustainable food production. With our strategic focus on innovation, technology, and research, we are enabling solutions that not only address today's challenges but also position our region at the forefront of sustainable food production in the future.

In this report, we demonstrate how 'place-based' investment in innovation is crucial for maximising the economic potential of our region. By leveraging local resources, expertise, and networks, we can create a supportive ecosystem that fosters collaboration between businesses, academic institutions, and communities. This localised approach not only stimulates job creation and economic growth but also ensures that the innovations we develop are tailored to the specific needs and opportunities of our region.

As we invest in the unique strengths of Kent and Medway, we empower our local industries to thrive and respond proactively to global challenges, ultimately contributing to a more sustainable and resilient future.



Dr Nikki Harrison, Director,  
Growing Kent & Medway

This report is a testament to the collaborative efforts of local businesses, research institutions, and civic partners. Together, we have invested in cutting-edge research facilities and expertise like the GreenTech Hub, the Biotechnology Hub, the Medway Food Innovation Centre, and the Industrial Agri-Engineering Hub, all providing essential support for businesses to grow and thrive. These investments are not only enhancing productivity and innovation but are also creating new opportunities for regional prosperity and inclusivity, ensuring that the benefits of growth are shared by all.

We have also prioritised inclusivity, recognising that diversity in innovation leads to richer, more impactful solutions. Through targeted programmes, we have worked hard to break down barriers and provide opportunities for underrepresented groups to engage in enterprise support and business-led innovation.

However, personally, I'm most proud of our team and their amazing dedication to this programme—whilst many were strangers to each other in the beginning, they are now the heart and soul of our network, working together to make things happen and fulfilling our vision.

I hope, as you read through this mid-term report, you will see the tangible impacts of our work, from new technologies that address pressing crop production challenges to the creation of new food and drink products and processes that enhance the region's economic vitality. Most importantly, the report is a reminder of what we can achieve through collaboration, shared vision, and a commitment to a sustainable future.

Looking ahead, we remain committed to our mission to continue driving innovation, inclusivity, and resilience in the horticultural and food and drink sectors, and to ensure that Kent and Medway lead the way in building a sustainable future for all.

Sincerely,

*N Harrison*

Dr Nikki Harrison  
Director, Growing Kent & Medway



# About Growing Kent & Medway

At Growing Kent & Medway, it is our mission to develop Kent and Medway as a UK leader for sustainable and climate-smart horticultural food production and processing.

Our region's landscape is a patchwork of farms, orchards and vineyards, blended with busy urban and coastal areas. Significantly, Kent provides access to Europe and the global markets. The English Channel is one of the world's busiest shipping routes, and in 2022, the ports of Dover, Medway and Ramsgate alone handled c.3.18 million tonnes of cargo freight and in 2023 c.3.29 million tonnes (import and export)<sup>1</sup>. Furthermore, 2021 data for the South East region as a whole (excluding London), shows that businesses in the South East of England accounted for 13.4% (£87.6 billion) of the UK's total exports and 17.2% (£117.6 billion) of UK total imports<sup>2</sup>. It is perhaps not surprising then that Kent and Medway have become home to some of the most exciting and innovative food and drink businesses in the UK and internationally. With the support of funding from the UKRI Strength in Places Fund (SIPF), GKM focuses on the development of enabling technologies, innovation and growth for these businesses and their supply chains.

When the original Strength in Places Fund application was made for GKM, our region had 2,395 food and drink production enterprises of which 88.9% were farming enterprises. There was a recognised need and opportunity for significant growth in innovation for the sector, with data from the South East LEP (2017)<sup>3</sup> showing that the volume of Innovate UK grants in the region at the time was well below the national average. Of this investment, a disproportionate quantity was focused on AgriTech, indicating that there was a strong demand for innovation in the horticultural sector.

1. See Port0499 downloadable dataset: [Port and domestic waterborne freight statistics: data tables \(PORT\)](https://www.gov.uk/government/datasets/port-and-domestic-waterborne-freight-statistics-data-tables-port) - GOV.UK ([www.gov.uk](https://www.gov.uk)).

2. [UK trade in numbers \(web version\)](https://www.gov.uk/government/statistics/uk-trade-in-numbers-web-version) - GOV.UK ([www.gov.uk](https://www.gov.uk)).

3. [SouthEast LEP Strategic Economic Plan Evidence Base FINAL.pdf](https://www.southeastlep.com/documents/SouthEast_LEP_Strategic_Economic_Plan_Evidence_Base_FINAL.pdf) ([southeastlep.com](https://www.southeastlep.com)).

There was already some engagement across the GKM partners with businesses in the region on Research and Development (R&D) in the horticultural supply chain, but it was recognised that there was significant room for growth in innovation activity by onboarding more businesses and enabling technology industries into collaborative R&D partnerships.

Since then, the difficulties faced by the sector, caused by international war, the Covid 19 Pandemic, climate change and Brexit combined with the huge increases in energy and the general cost of living mean that the need to innovate and collaborate to support food production and food supply chains has never been more pressing.

Our project has made great strides in supporting innovation-led growth in horticulture and food & drink enterprises and has significantly enhanced collaboration in R&D for Kent and Medway.

# Pathways to Impact

## How does Growing Kent & Medway deliver economic growth?

Innovation is a well-recognised driver of employment and economic growth (Ciarli et al., 2018<sup>4</sup> ; Coad et al 2014<sup>5</sup>; ERC 2018<sup>6</sup> ). The pathways to achieving employment and economic growth from the outputs of innovation activity are summarised in our Theory of Change and Logic Model (Appendix 1). These two models describe the linkages between the activities that are delivered by GKM and the outputs, outcomes and impacts that are expected to result from these activities over the short, medium and longer terms.

GKM is facilitating increased levels of co-innovation activity by bringing together researchers and businesses to solve problems and exploit opportunities that have been identified. The R&D infrastructure and innovation brokerage support that is provided by GKM allows new funding opportunities to be exploited thus bringing new investment into Kent and Medway. R&D leads to the creation of new knowledge, and new technologies, processes and products. In turn this leads to improvements in productivity, sustainability, and the creation or growth of businesses and jobs in the region.

The programme also delivers tailored business support through its mentoring and accelerator programmes. These activities can also lead to the creation of new products and business processes allowing enterprises to develop new markets, improve productivity and create new value streams. Over time, the knock-on effects are business growth leading to new jobs and regional wealth creation. GKM also supports skills and training to develop the future workforce and next generation of innovators. These pathways to impact are summarised in figure 1.

GKM is helping to create conditions for growth in technology and knowledge-based businesses, horticultural production and food & drink processing industries as well as the supply chains that support these activities. As a result of increased levels of R&D, development of new goods and services and the increased use of technology in the sector, a variety of new jobs and career opportunities will be stimulated. These new opportunities will create a demand for a skilled local workforce, accelerating the upskilling, re-skilling and retention of talent within Kent and Medway, and enabling local people to contribute to and benefit from an uplift in the region's prosperity.

4. Ciarli T., Marzucchi A., Salgado E. & Savona M. (2018) *The Impact of R&D on Employment and Self-Employment Composition in Local Labour Markets*. Working Paper 32, June 2018.

5. Coad A., Cowling M., Nightingale P., Pellegrino G., Savona M. & Siepel J. (2014) *Innovative Firms and Growth*. UK Innovation Survey. BIS, 2014.

6. ERC (2018) *Knowledge to money: Assessing the business performance effects of publicly-funded research and innovation grants*. ERC Research Paper 61, October 2018. <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2017/09/ERC-ResPap61-VaninoRoperBecker-revised-V4.pdf>

# How does Growing Kent & Medway deliver inclusive regional economic growth?

Growing Kent & Medway has a goal to deliver a fairer economy, where everybody can benefit from regional wealth creation.

Our strategy to facilitate inclusive growth is to address barriers to inclusion and equality of opportunity within our own operations and the wider innovation landscape. We will facilitate uptake by under-represented groups by making the GKM support opportunities visible and accessible. We will collaborate with other initiatives in the region to identify opportunities for and challenges around inclusive participation in enterprise activity, business innovation and horticulture.

Our target groups are women, younger people (aged 18-30 years) and businesses from priority areas that experience significant prosperity gaps or have been significantly affected by the economic impacts of the Covid 19 Pandemic (the evidence base for GKM's under-served target groups is available in a separate report).

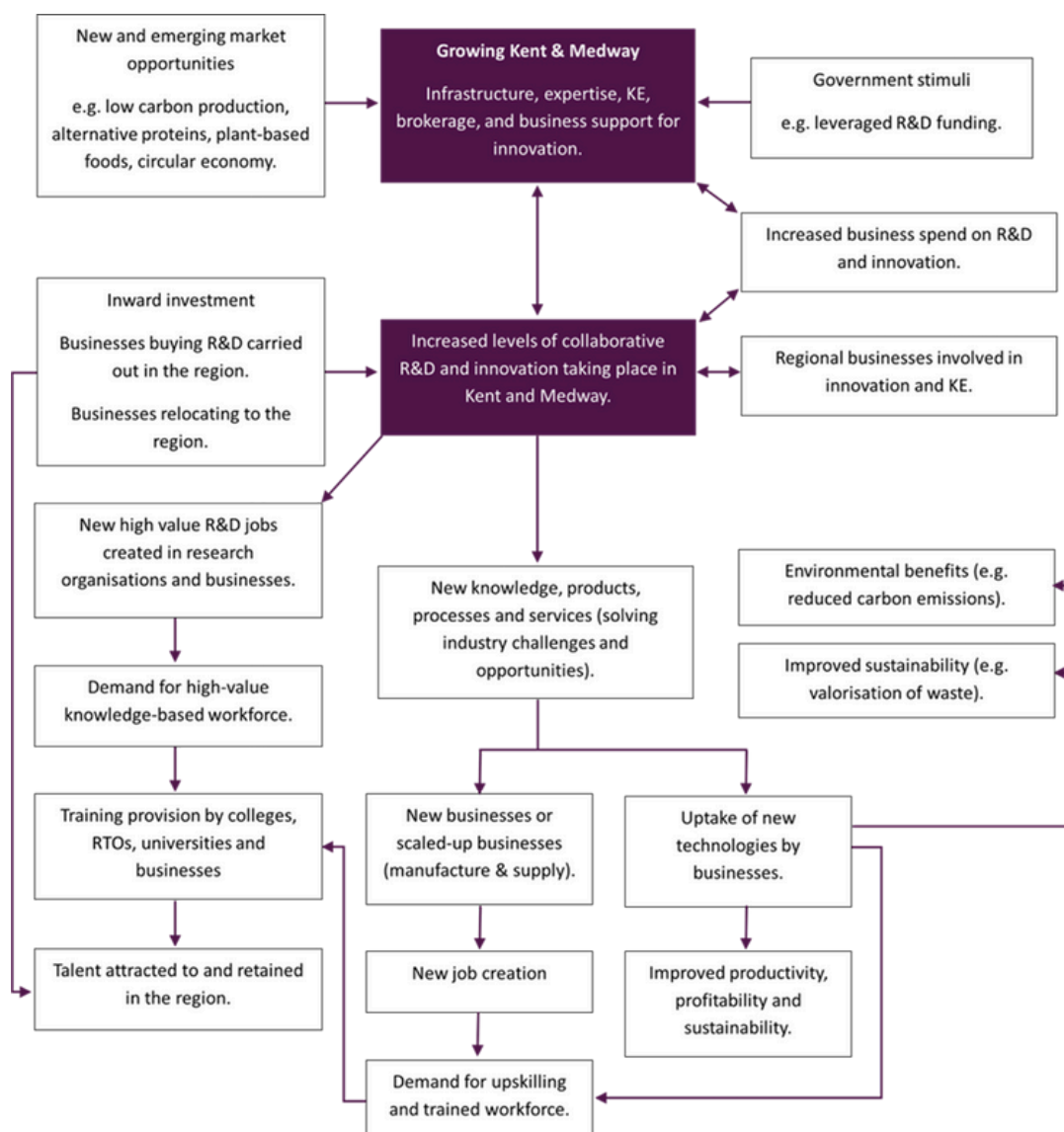


Figure 1: Delivering regional economic growth – pathways to impact

There are three key areas of focus by which GKM will open opportunity and contribute towards inclusive growth in the region:

1. GKM has developed strategies for engaging with the under-served groups identified above. We aim to provide at least 30% of support in certain activities to these groups. The activities are:
  - a. Medway Food Innovation Centre (MFIC) to help SME businesses/entrepreneurs access the makerspace/ lab facilities for product development activities.
  - b. Accelerator Programme to support SME businesses and entrepreneurs to develop and grow plant-based food & drink businesses in the region.
  - c. Mentoring Programme to support entrepreneurs and SMEs at various stages of enterprise growth in the development of their business innovation and growth strategies.
  - d. Innovation Growth Managers to help businesses/entrepreneurs to access research and innovation funding or other forms of support.
2. GKM requires beneficiaries of its grant-funded programmes to contribute towards delivering social value via community engagement in the region. We aim to deliver 192 days of social value over the course of the project with activities including participation in the STEM Ambassador Programme, contribution towards community growing projects and offering Nuffield Placements for under-privileged, gifted and talented Year 12 students.
3. GKM works with other initiatives and organisations in the region and sector to deliver skills development and support high quality employment opportunities and career pathways. For example, GKM has teamed up with training provider MDS to create the UK's first regional apprenticeship hub for the fresh produce sector. It has also collaborated with The Institute for Agriculture and Horticulture (TIAH) to create a new sector-specific digital skills hub for professional skills and careers. The hub includes information about employers, job profiles, and specific career pathways in the Kent and Medway regions.



# Investing in regional business innovation

## R&D Infrastructure created

We have invested £8.6million in research infrastructure, already being accessed by a wide range of horticultural, food & drink and packaging businesses. We have designed, built, fitted out and delivered critically needed state-of-the-art facilities, adding a raft of ground-breaking research and innovation capabilities to the region. These include:

### **The GreenTech Hub at Niab, East Malling**

The construction of this facility was partially funded by SIPF, benefitting from £2,700,000 of GKM investment, £3,200,000 matched from the East Malling Trust, and £2,000,000 of extra funding through the Local Growth Fund (SELEP), with £2,900,000 match from the East Malling Trust. There was an additional £157,000 of in-kind support from Niab and £600,000 of funding from the East Malling Trust for the creation of the research winery. The GreenTech Hub offers 2,950 m<sup>2</sup> commercial floorspace, to provide test and demonstration facilities for the advanced horticultural production industry, featuring:

- 1,928m<sup>2</sup> of specialist glasshouses
- 14 modern polytunnels (totalling 1,960m<sup>2</sup>)
- 7 independently controlled environmental growth rooms, from 10m<sup>2</sup> to 20m<sup>2</sup>
- 35m<sup>2</sup> and 43m<sup>2</sup> cold rooms, with full temperature control of -2°C to +4°C including a fully equipped laboratory space for sample preparation and processing
- The Client Zone, a modern meeting room within the building, with AV support available for hire as well as the atrium, flexible space suitable for a range of events
- A 260m<sup>2</sup> research winery

Since its launch in May 2022, the GreenTech Hub has been supporting research and knowledge exchange, enabling the UK fresh produce sector to look for solutions to some of the most urgent and pressing issues they face today.

These include diverse areas, for example:

- resilience to pests, or climate change,
- helping to make resources and production systems more efficient and with less harmful impacts on the environment, through means such as reducing and reusing waste or through the use of new technologies such as sensors, AI and robotics, and
- producing food which is highly nutritious and affordable.

The GreenTech Hub was also built using the latest environmental technologies, including solar PV, rainwater harvesting, air-source heat pumps and an energy dashboard for growth rooms and cold stores.

The GreenTech Hub is working with a range of businesses. To date 22 businesses have made use of the facilities for 12 hours or more, with many more collaborations in the pipeline. There have been 70 organised knowledge exchange events hosted by the GreenTech Hub facilities in the last two years for individuals and groups in industry areas such as plant breeding, biotechnology, genetics, pathology, horticultural food production and manufacturing, grape and wine R&D and agronomy as well as students, third sector and general interest groups.



*Glasshouses used for research  
at the GreenTech Hub*



*The Mumford Building  
at East Malling*

*Figure 2: The GreenTech Hub at East Malling*



## **The Industrial Biotechnology Hub for Sustainable Food & Drink at University of Kent, Canterbury**

Fitted out with a range of high quality, specialist equipment, in an investment of more than £215,000 of SIFP funding and more than £55,000 of further in-kind funding, and featuring a team of specialist staff, the Biotechnology Hub for Sustainable Food and Drink also launched in May 2022.

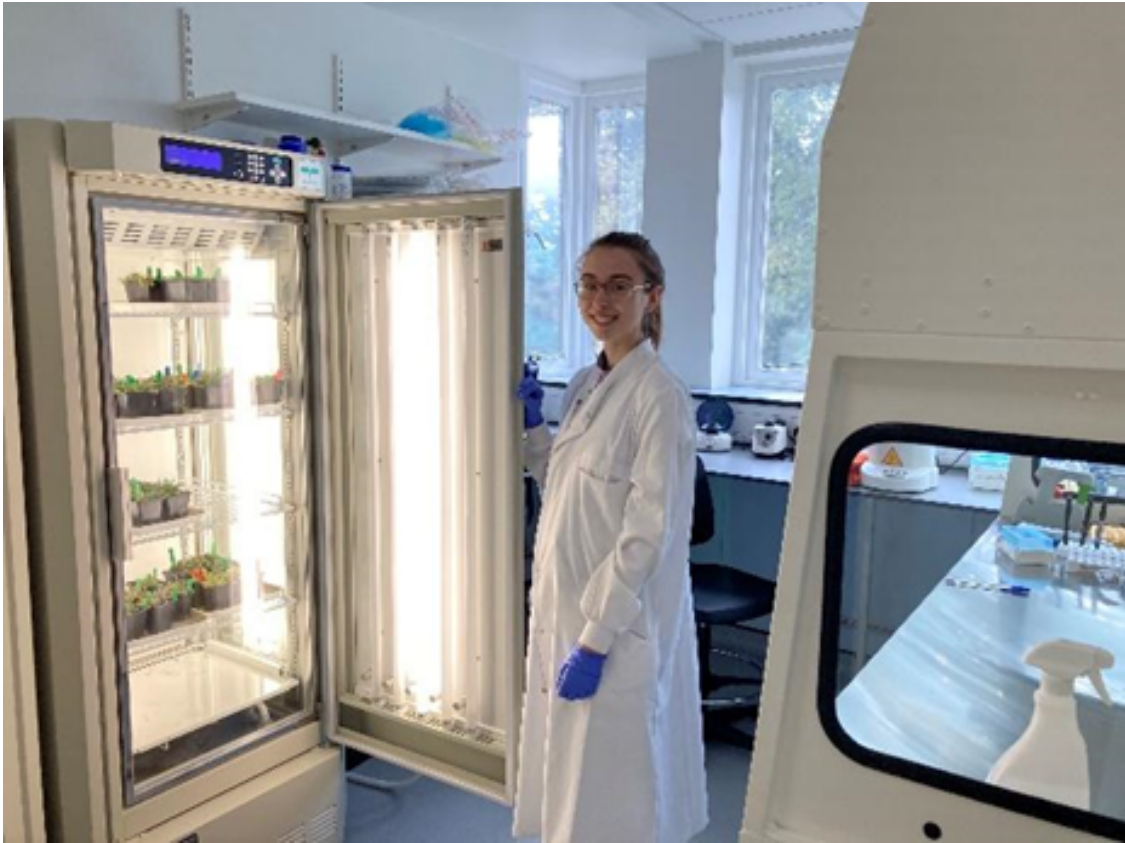
The BioTech Hub applies cutting-edge approaches to research for the production and processing of high-value foods and plant-based compounds from plant material and waste, pathogen identification and control, and maintenance of healthy soils. The research team based at the BioTech Hub includes leading experts in plant biology, post-harvest and packaging research and sustainable food and drink research.

The team supports businesses to enhance their products or services, and solve a wide range of sector challenges, whether that is increasing crop yield, reducing waste, improving nutrient value, developing disease resistance, creating new sources of proteins, improving biocontrols or much more. It offers expertise and cutting-edge equipment including:

- Cell Image Analysis
- Biomolecular Science
- Biological Nuclear Magnetic Resonance (NMR)
- Biosensor development

Other specialist equipment includes animal cell culture facilities and animal cell and bacterial fermentation, cell sorting, anaerobic sample handling, fast reaction kinetics, parallel computing cluster, laser trap rig and automated sample handling.

The BioTech Hub works closely with industry in a range of areas from disease resistance (including molecular biology, genetic analysis and disease control) and maintaining healthy soils to sustainable packaging and bio-refining. The resources and access to highly trained specialists available through the hub have been in high demand, with 45 businesses to date having made use of the BioTech Hub facilities for 12 hours or more.



*Student, Jade Van Wijk at the University of Kent, using the plant-growth chamber on her undergraduate summer placement in the Biotech Hub*

University of  
**Kent**

*Dr. Hollie  
Larnach  
uses the  
flow hood  
in the  
BioTech  
Hub*



*Figure 3: Facilities at the Biotech Hub in Canterbury*

## The Medway Food Innovation Centre at the University of Greenwich in Medway

Fully refurbished and fitted out with state-of-the-art equipment for food processing research and new product development, the Medway Food Innovation Centre (MFIC) has 275m<sup>2</sup> of commercial floorspace and officially launched in January 2023.

Benefitting from £800,000 of SIPF grant funding and a further £725,000 co-investment by the University of Greenwich, for the refurbishment and fit-out, the Medway Food Innovation Centre offers facilities, including the Alpine Multiprocessing System AFG100, from Hosokawa Micron Limited for dry fractionation to perform plant protein extraction without using solvents. The Medway Food Innovation Centre, as a part of the Natural Resources Institute at the University of Greenwich was one of the first UK University based food laboratories to commission such a facility, enabling eco-innovative extraction at semi-pilot scale, of plant and algal proteins.

The specialist team of experts and technologies at this facility, are supporting industry in a range of areas, from assessing the technical feasibility of food processing and new product development, to advising on a range of business areas, including consumer insights, food safety and storage and providing services to improve efficiencies within plant-based food and drink businesses. It's focus areas include alternative protein-based food and drink, novel food and drink processing, flavour, texture, and sensory research, food safety and nutrition, fresh produce storage and sustainable packaging.

To date 78 businesses have made use of the cutting-edge facilities at the Medway Food Innovation Centre for 12 hours or more.



*Dr. Rania Harastani operating the high-pressure homogenizer at the MFIC.*



*The Hosokawa Alpine Dry Fractionator can generate two key fractions from legume & cereal flours without the need for water, chemicals or solvents.*

*Figure 4: Equipment at the Medway Food Innovation Centre*



## The Industrial Agri-Engineering Hub, at Canterbury Christ Church University

Our most recent partner facility, the Industrial Agri-Engineering Hub, officially launched in September 2023 as part of an exciting collaboration between GKM and Canterbury Christ Church University. It offers facilities for innovative engineering and manufacturing R&D for the horticulture, food and drink sector and connects these businesses with Agri-technology specialists. Through this new collaboration, GKM is bringing together Kent's key research institutes enabling us to offer a comprehensive and cross-disciplinary approach to providing expertise and support for the sector, which has not previously been available.

Canterbury Christ Church University is one of only a few UK universities offering the CDIO (Conceiving, Design, Implementing and Operating) international engineering model developed by the Massachusetts Institute of Technology (MIT). It enables students to work on real world systems and products with industry, and together with the University's Engineering, Design, Growth & Enterprise (EDGE) Hub, it facilitates and encourages close collaboration across industry, research partners, education providers and other organisations. Canterbury Christ Church University estimate that the EDGE Hub will be worth £7.6m to £11.4m per year<sup>7</sup> to the Kent and Medway economy, with the aim of injecting 1250 highly skilled engineering and technology graduates into the local economy by 2024.



*Figure 5: The Verena Holmes Building at Canterbury Christ Church University*

7. <https://www.canterbury.ac.uk/business/edge-hub>.

We have so far challenged two cohorts of engineering students at Canterbury Christ Church University to tackle key issues facing our sector using the CDIO initiative, working in material science (developing sustainable materials from horticultural waste) and Agri-Tech (quantifying the ripeness and yield of cherries pre-harvest).

These CDIO initiatives, delivered as a part of our social value activities (see also the [“Advancing opportunity and inclusive growth”](#) section of this report) aim to inspire the next generation of engineers into careers in our sector.

The Industrial Agri-Engineering Hub is based in the multi-million-pound Verena Holmes Building, one of the largest STEM buildings in the Southeast. It offers a range of professional facilities and equipment, including:

- Engineering Laboratories
- Mechatronics
- Electronic and electrical engineering
- Control and instrumentation
- Thermo-fluids
- Materials and mechanical physics
- Traditional and advanced engineering fabrication and manufacturing workshops
- Large-scale laboratories
- Growing rooms & greenhouses
- Conference facilities over four storeys.



## Grant Funding

We are investing £5 million in secondary grant funding for R&D and innovation activity and have awarded more than £3 million in grants to date.

These grants support projects looking to innovate and develop new technology or approaches to tackle some of the key challenges facing horticultural and plant-based food or drink production. More than this, they facilitate collaboration between businesses (with innovative ideas, processes, technologies or products to develop), to work with scientists and researchers at Research Organisations across the region, as well as other innovative businesses to deliver new insights for the sector.

Early in the development of the GKM programme, we recognised the need to support businesses with innovation at a range of technology readiness levels, from concept/feasibility or pilot studies, through to industrial research and finally to prototyping, testing and commercialisation, in order to maximise our impact within our region. Our grant funding programme has been designed to offer a range of funding streams, to suit a broad spectrum of business sizes and commercial maturity.

These range from the smaller Business Innovation Vouchers and Business Sustainability Challenge grants, through to larger funding options, such as our Large Collaborative R&D grants and our Prototyping and Demonstration grants. Supported by our Innovation Growth Managers, and with networking opportunities and access to technical expertise and facilities, together with promotional support, our grants programme is designed to offer more than just funding.

It is an opportunity for businesses to build experience and confidence in developing grant funded innovation projects, carry out technical research in a supported and relatively risk-free environment and to develop a network of peers and collaborators.

## Large-Scale R&D Grants

So far, GKM has allocated more than £2.5 million of grant funding to regionally delivered research and innovation projects. The Large-scale Collaborative R&D grants have been awarded to 11 lead industry partners working with a further 10 industry collaborators, as detailed in the tables below.

These grants have been awarded through two rounds of funding with Round 1 allocating £1,036,427 in funding to 6 projects and Round 2 a further £1,350,239 to 5 projects. Partners of the Round 1 projects have co-invested £951,467, and £815,386 co-investment has been made by Round 2 industry partners. This investment is already delivering tangible impacts through our first-round projects, including through the social value activities which grant beneficiaries commit to deliver throughout the course of their project.

Examples of social value activities carried out have included knowledge exchange events held by industry partners, student placements (e.g., the Nuffield student placement programme) and STEM activities carried out with schools. For more information on social value see the “Advancing opportunity and inclusive growth” section.

The Large-scale Collaborative R&D funding competitions were run through Innovate UK using the gov.uk Innovation Funding Service (IFS) system, and with the support of our Innovation Growth Managers, who work with industry to communicate and socialise grant funding opportunities as well as enable businesses to understand the eligibility requirements and processes during the bidding process.

Applicants were able to apply for grants up to the value of £250,000 for Round 1 projects and up to £350,000 for Round 2 projects. Each of the projects, awarded over two rounds of funding, are collaborative with at least one of the cutting-edge research organisations based in Kent and Medway. Details of each of the projects awarded in Round 1 and 2 are given below, showing the range of types of research being carried out.

## Large-Scale R&D Grants: Round One

### Screening for resistance to spotted wing drosophila in strawberry and raspberry accessions

*Asplins, WB Chambers, Niab*

*Total project cost: £149,730*

Spotted Wing Drosophila, a type of vinegar (fruit) fly, are a pest of stone and soft fruit, such as cherries, strawberries and raspberries. They are a particular problem for soft fruit because they are highly attracted to ripening and undamaged (as opposed to rotting) stone and soft fruit and infest these at an early stage, damaging and destroying the crop. This project is assessing a range of strawberry and raspberry types and varieties to see whether any of these may produce fruit that is either less attractive to the spotted wing drosophila, or which inhibit the laying of eggs or emergence of larvae within the fruit. If any such varieties are found, then future strains of strawberry and raspberry plants could potentially be bred to include these resistance traits.

The project is continuing to investigate and validate the findings to date, which so far indicate that the sugar level (brix) and colour of strawberries may influence how susceptible the berries are to spotted wing drosophila. The project has featured on the GKM social media channels<sup>8</sup>, and research into the control of Spotted Wing Drosophila has also attracted further industry collaboration and funding, in the form of a Business Innovation Voucher. This was awarded to British Berry Growers, working with WB Chambers and NIAB East Malling to look at the use of “augmentoria” – devices which confine emerging adult flies but allow free movement of native parasitoids.



*Jessica Costello, Niab, examines different raspberry varieties*

8. See for example: <https://www.tiktok.com/@growing.kent.medw/video/7347115282395155744>



### A longer season for British cherries

*Norton Folgate, University of Greenwich*

*Total project cost: £209,346*

This project is looking at ways of extending the season for British cherries by researching uniformity of maturity, freedom from disease and long-term storage regimes for cherries. The project partners are carrying out a number of collaborative elements to this research, including:

- measuring the impact of reflective covers/mulch on the orchard floor on light in the canopy and harvest maturity of cherries.
- assessing water treatment with Bio-Max and dry-fogging with hypochlorous acid solution after harvest. These are being investigated as means of reducing and controlling fungal and bacterial disease-causing microorganisms, before and after harvesting, to avoid the development of fruit rot during storage.
- assessing conventional and dynamic controlled atmosphere storage regimes with three varieties of cherry. These storage regimes use high CO<sub>2</sub> and low O<sub>2</sub> levels in differing combinations to extend the storage life of the cherries.

Results are beginning to be assessed across all research areas, and trends in some data look promising. Also, as a part of this research project, engineering students from Canterbury Christ Church University were invited to take part in a CDIO project, looking at strategies to increase the efficiency of solar panels being used at the cherry orchard, by cooling them with water, with the potential to use the heated water for other purposes. Students have also looked at an initiative to monitor tree canopy development by analysis of photographs.

### Increasing ascorbic acid and iron levels in tomatoes to enhance human nutrition and plant abiotic stress tolerance

*Thanet Earth, Niab*

*Total project cost: £574,246*

Increased temperatures and hot, dry summers, as a result of global warming can affect the growth, yield and nutrition of a tomato crop. This project is looking at ways of producing nutrient dense tomatoes, with increased levels of Vitamin C and Iron, which enhance tolerance to heat stress, as well as being beneficial for human health.

## Enhancing orchard ecology for improved resilience to climate change and apple canker disease

*Avalon Fresh, Niab*

*Total project cost: £205,583*

Controlling the problem of apple canker in orchards is difficult, expensive and time consuming. Yet this disease, prevalent in Kentish orchards and across the UK, can cause a huge problem for growers, and one which is exacerbated by climate change. This project aims to look for new methods of controlling management of the disease and increase crop yield, profitability and resilience.

Since project inception this research topic has attracted further (leveraged) funding from BBSRC, granted to Niab and industry partners, Worldwide Fruit, to look at the sustainable management of apple canker.

## The role of biochar in increasing crop land productivity and the removal of atmospheric greenhouse gases

*Re-generation Earth, University of Kent*

*Total project cost: £427,802*

Biochar is the carbon-rich result of organic, plant-based material, being heated without oxygen, to very high temperatures through a process known as pyrolysis. There is growing interest in the role biochar can play in locking carbon from waste materials, into the soil. This is particularly relevant for farmers and growers who frequently have a quantity of woody waste in the form of, for example, hedge clippings, that would usually either be left to decompose or burnt, releasing carbon into the atmosphere. This project is looking at impact which applying biochar to the soil can have, both on CO<sub>2</sub> levels in the soil and on the physical, biochemical and microbial properties of the soil.

Regeneration Earth and partners at Bank Farm have developed an ongoing collaboration with the University of Kent, with a living lab based at bank farm supporting the work of the university's PhD students. Regeneration Earth have also recently made a presentation on behalf of Kent County Council, to a delegation from Flanders regarding water usage, including around how biochar can help with water holding capacity in soil.

## Maximizing nutritional value in young brassicas with distributed intelligent growing systems

*Evogro, Niab*

*Total project cost: £421,197*

This project is looking at technologies which could help with moving to net-zero food production and producing young brassica crops, with higher nutritional value to support health. Working with Evogro, a company which makes personal scaled down vertical farms, for hospitality operators and homes, the project aims to design new apparatus, integration and capabilities to enable young brassicas to be grown with enhanced nutritional value.

At the recent GKM Showcase event, Evogro presented their project, including showcasing their vertical farm cabinet and some examples of their microgreens crops to around 90 attendees. They have produced and shared a short reel on the event, available on online.

### Large R&D Grants Round Two

In the second round of grant funding, we awarded £1.4 million to five businesses for large scale Collaborative R&D.

A breakdown of the grants awarded in both Rounds 1 and 2 of the large R&D secondary funding stream, are given below in Tables 1 and 2.

## Large R&D Grants supported: round one

Lead partner	Other Partners	project Aims	Industry profile	Industry co-investment	Grant awarded	Total project cost
The Asplins Producer Organisation Ltd	WB Chambers NIAB	Screening for 'resistance' to Spotted Wilt ( <i>Drosophila suzukii</i> ) in strawberry and raspberry accessions	Based in Faversham, Asplins Producer Organisation has 11 growers in their cooperative and sell over £100m of fruit annually.	£62,986	£86,744	£149,730
Thanet Earth Ltd	NIAB	Increasing ascorbic acid and iron levels in tomatoes to enhance human nutrition and plant abiotic stress tolerance	Thanet Earth are one of the leading UK producers of salad crops. Their glasshouse complex is located in East Kent. These enormous glasshouses are estimated to produce around 400 million tomatoes, 30 million cucumbers and 24 million peppers each year.	£324,248	£249,998	£574,246
Evogro Ltd	NIAB	Maximizing nutritional value in young brassicas with distributed intelligent growing systems	Evogro make personal vertical farms for hospitality operators and homes. They use the same technologies as industrial vertical farms but scaled down to appliance size.	£176,933	£244,264	£421,197
Avalon Produce Ltd	Agrovista NIAB	Enhancing orchard ecology for improved resilience to climate change and apple canker disease.	Avalon Fresh is a marketing group based in Maidstone with over 30 top fruit growers, supplying most of the major supermarkets.	£87,059	£118,524	£205,583
Re-generation Earth Ltd	University of Kent	The role of biochar in increasing crop land productivity and the removal of atmospheric greenhouse gases	Re-generation Earth works with landowners to develop projects using their natural assets, like soils, waterways or hedgerows, to identify where they can capture more CO <sub>2</sub> and increase biodiversity commercially. They are based in Sittingbourne.	£212,249	£215,553	£427,802
Norton Folgate Marketing Ltd	Terra Prima Group IWSUK Storage Control The Orchard Fruit Co. University of Greenwich	Extending the season for Kentish cherries	Norton Folgate is a fruit marketing business and part of the Orchard Fruit company. Based in Sittingbourne, it markets both UK and imported fruit.	£88,001	£121,345	£209,346

## Large R&D Grants supported: round two

Lead partner	Other Partners	Project Aims	Industry profile	Industry co-investment	Grant awarded	Total project cost
Worldwide Fruit Ltd	Niab	Next generation apple breeding for resilient UK production.	Worldwide Fruit Ltd is an international fruit marketing and distribution company, focused on being customers' first choice.	£140,858	£222,477	£363,335
AG&HT Miles Limited, (Overland)	Niab	Second Life: Development of sustainable recycled growing media.	AG&HT Miles run Overland, a company providing plant waste processing for glass houses and polytunnels.	£170,603	£273,270	£443,873
Edward Vinson Limited	Niab	Turning over a new leaf: Use of state-of-the-art phenotyping and genomics to breed for plant architecture in strawberry.	Edward Vinson, fruit growers for more than 150 years in the Southeast of England.	£161,240	£256,863	£418,103
Recoir Ltd	Hugh Lowe Farms Niab	Use of microbiome amendments to improve propagation efficiency, cultivation sustainability, productivity and resilience in the Kent and Medway raspberry industry.	Recoir produce a sustainable growing medium by repurposing coir at the end of its life, with the aim to reduce waste within the horticulture sector through closed loop resource recovery.	£191,590	£333,160	£524,750
Rumwood Green Farm Ltd (Charltons Farms)	Bio Best Group Asplins Niab	A phenology-perceptive integrated biocontrol program for large raspberry aphid control.	Charltons is a fourth-generation family farm business. They are a leading UK based grower and packer of quality top, stone and soft fruit. Charltons have a state-of-the-art storage and packing facility that handles fruit from its own farms as well as from other growers within the UK and worldwide.	£151,095	£264,469	£415,564



## Business Innovation Vouchers

Our first round of Business Innovation Vouchers awarded £154,000 to 11 successful horticultural and plant-based food and drink businesses. The vouchers are supporting our industry partners to access cutting-edge research facilities and technical and scientific knowledge, working with the GKM facilities at the GreenTech Hub, Biotech Hub and Medway Food Innovation Centre. The Business Innovation Voucher funding rounds are delivered by GKM with evaluations of each application carried out by independent experts in the sector.

Table 3 below lays out the projects that have been funded by round one Innovation Vouchers to date. These are looking at a range of sustainable innovations in differing areas, through product or process development, testing and prototyping, or scientific consultancy and proof of concept work.

Figure 6 below shows the further breakdown of the round one Innovation Voucher projects by topic area which fall into four broad themes:

- horticultural production including the production of novel, high-value compounds from plants
- Packaging for plant-based food and drink products
- Plant-based food and drink products and processing
- Enabling technologies that underpin the supply chain.

The highest proportion of Innovation Vouchers were awarded to partners carrying out research in sustainable crop production. The rest of the projects represent a spread across a variety of other areas, including sustainable packaging, reducing food waste, energy use and carbon emissions, alternative proteins and water.

Businesses were awarded vouchers that provided funding for up to 75% of total project costs, up to a maximum grant of £15,000, with grant funds being paid directly to the research organisation. Under this scheme our industry partners co-invested a total of £53,447 in the form of in-kind and cash contributions. This represents a significant investment by our industry partners, given the majority (64% in round 1) of those awarded vouchers are small or micro businesses—see Figure 7 for a breakdown of industry partners by business size.

By supporting our grant beneficiaries to innovate through feasibility studies and proof of concept work, GKM has been able to widen our reach and engage with new industry partners. Of all grant applications, 90 of these (c.49%) were the first interaction or enquiry we had received from an industry partner. Our industry partners have also made a commitment to deliver up to two days of social value (community engagement) work. More details of this are given in this report under [“Advancing Opportunity and Inclusive Growth.”](#)

## Business Innovation Vouchers: Round one

Topic Area	Partners	Industry Profile	Project Aims	Grant value	Industry Co-investment
Sustainable Packaging	Sharpak Aylesham University of Kent	Sharpak Aylesham develop, manufacture and market packaging solutions for the food service delivery, food to go and catering market sectors.	Sustainable soaker pads for raspberry punnets	£4,407	£1,400
Reducing Food Waste	Edward Vinson University of Greenwich	Edward Vinson, fruit growers for more than 150 years in the Southeast of England.	Selecting raspberry breeding material with improved texture quality to be bred into new varieties, for a longer fruit lifespan	£15,000	£5,000
Reducing Food Waste	AC Hulme & Sons Niab	AC Hulme & Sons is a family run mixed farm which has been operating in East Kent since 1946.	Improving low-oxygen controlled atmosphere storage for Gala apples.	£15,000	£5,000
Energy use and carbon emissions	Fermenti University of Greenwich	Fermenti are producers of a pro and prebiotic fermented plant-based snack	Energy efficient drying for safe and sustainable probiotic fruit snacks	£15,000	£5,000
Energy use and carbon emissions	Verdant Carbon Niab	Verdant Carbon is a soil sampling and analysis company, focusing on the determination of soil carbon in agricultural soils.	Exploring the links between soil microbiome and carbon sequestration	£14,989	£5,000
Sustainable Crop Production	J L Baxter & Son University of Kent	J L Baxter & Son is a fruit grower producing predominantly apples and pears, who has been in the industry for over 80 years.	The potential health benefits of Nashi Gold pear hybrids	£14,997	£5,000

## Business Innovation Vouchers: Round one (cont)

Topic Area	Partners	Industry Profile	Project Aims	Grant value	Industry Co-investment
Sustainable Crop Production	Calyx Niab	Calyx is part of Kent's growing landscape of vertical farming innovators.	Sustainable Plant Fibres for Fashion	£14,995	£5,000
Sustainable Crop Production	Machere Ltd. NIAB	Machere grows micro herbs, greens, shoots and baby leaves in a controlled environment, using aeroponics.	Organic fertilisers for aeroponics	£15,000	£5,000
Sustainable Crop Production	Wye Hops University of Kent	Wye Hops Limited, a subsidiary of the British Hop Association (BHA), is a plant breeding company developing hop varieties primarily for UK hop growers.	Marker assisted breeding to produce powdery mildew resistant hop cultivars.	£14,982	£7,047
Water	South East River Trust Niab	The South East Rivers Trust is an environmental charity with expertise in stewardship for rivers and catchments.	Mapping Medway Horticulture to support water and business resilience	£14,994	£5000
Alternative Proteins	Born Maverick Alt Pro Ltd. University of Greenwich	Born Maverick Alt Pro Ltd is aiming to explore untapped algal proteins through eco-innovative methods.	Sustainable methods for extracting proteins from seaweed	£15,000	£5000

Figure 6 -Topics covered by Business Innovation Voucher funded research

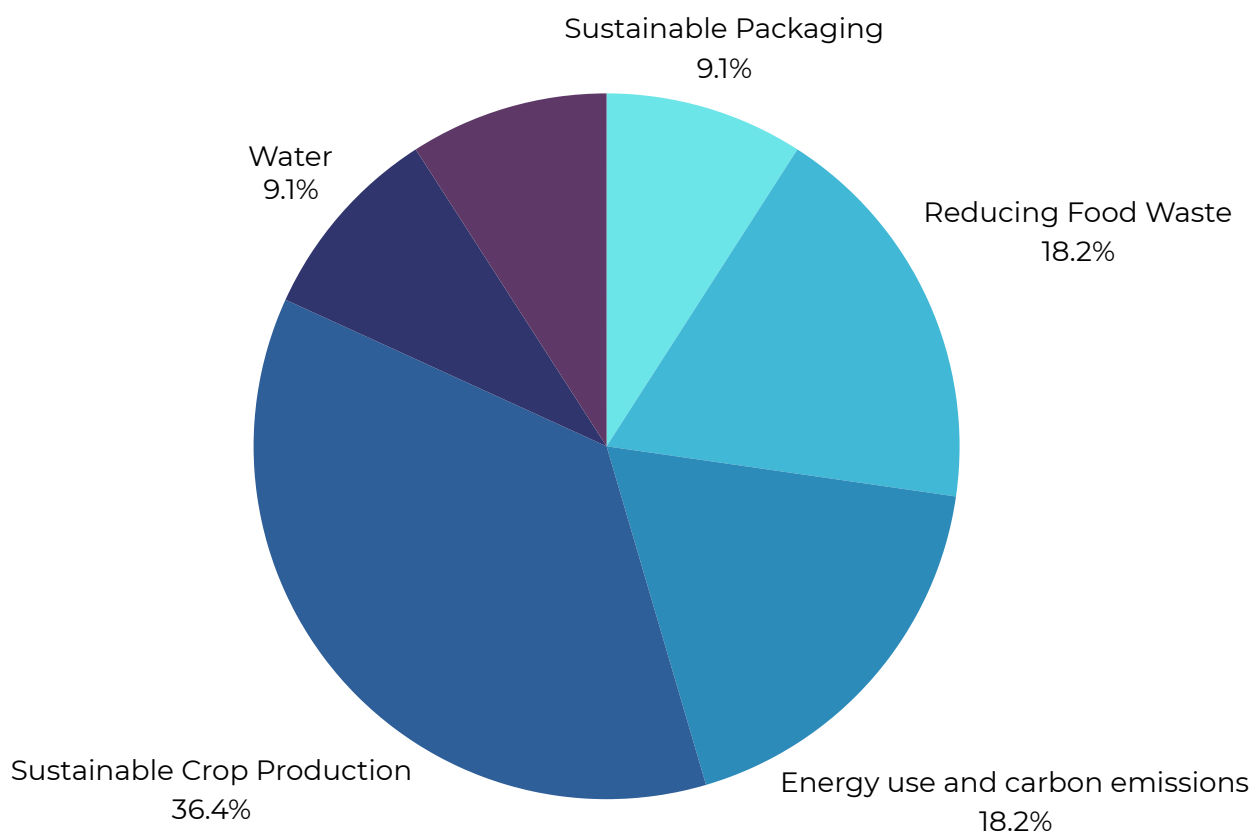
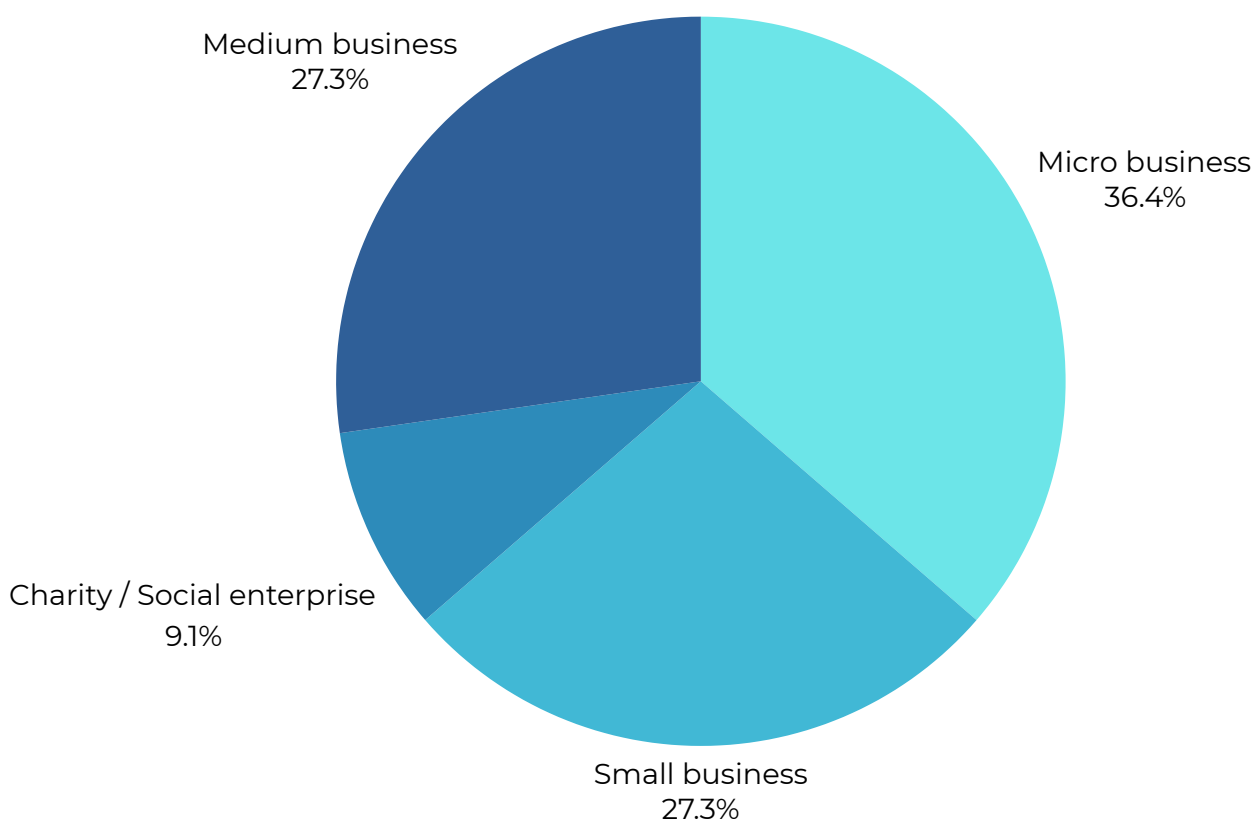


Figure 7 - Business Innovation Voucher Grant winners (round one) by business size



## Business Innovation Vouchers: Round two

The second round of Business Innovation Vouchers (BIV) were awarded in June 2024 to 13 Businesses, offering them a chance to work directly with our leading research organisations. We awarded over £320,000 to businesses across the sector, with projects focusing on sustainable materials and packaging, sustainable farming systems, sourcing sustainable ingredients, innovative food and drink production techniques and functional foods.

These Business Innovation Vouchers offered up to 50% grant funding towards research projects costing up to £60,000. In contrast to the first round of BIV funding, they were also available to businesses outside of the Kent and Medway region, providing there was collaboration with a Kent and Medway based research organisation. This enabled a wider range of businesses to develop or deliver innovative solutions bringing investment into our region. Of the 13 projects awarded grant funding, 5 are companies registered outside of the region working with a Kent and Medway based Research Organisation. Table 5 lays out the projects funded in this round.

In this round of funding, there was a good spread of projects across the supply chain and sector. Most funded projects fall into the Sustainable farming Systems and innovative food and drink production techniques categories. Figure 8 shows the proportion of Business Innovation Vouchers awarded in Round 2 by topic area.

## Business Innovation Vouchers: Round two

Topic Area	Partners	Industry Profile	Project Aims	Grant value	Industry Co-investment
Innovative food and drink production techniques	Root Mylk University of Greenwich	Established in 2023, Root Mylk intertwines African culinary traditions with a commitment to natural and healthful ingredients. The brand produces unique, African-inspired beverages that celebrate the rich culinary heritage of Africa.	Enhancing Tigernut Mylkshake stability, Quality, and Customer wellbeing through Innovative processing	£14,544	£17,200
Innovative Food and Drink Production Techniques	Aridom Sanex NIAB	Aridom Sanex offers a diverse range of products tailored for commercial and industrial applications, including automated fogging devices, eco-friendly biocidal products, water purification systems, and voltage optimisers.	Berry Fresh Initiative: Evaluating the Impact of Decontamination on the Sensory Properties of Strawberry	£ 29,322	£30,668
Functional Foods	Margate Mushrooms, University of Greenwich	Margate Mushrooms is a micro-business providing their community with nutritious mushroom-based foods. The mushrooms are grown in the heart of Margate, and the company is a branch of Margate Independent Foodbank.	Understanding the true medicinal value of mushrooms	£ 20,080	£20,120
Innovative Food and Drink Production Techniques	Mochi Bros University of Greenwich	Mochi Bros produce plant-based mochi gelato sandwiches. They are produced with no additives, preservatives or artificial ingredients.	Development of stable and clean label mochi ice cream recipes capable of withstanding temperature fluctuation	£ 15,115	£15,740
Innovative Food and Drink Production Techniques	HWB Group NIAB	HWB Group was originally founded as Harlington Wine in 2005 as a specialist UK import wine broker. It has introduced over fifty boutique and niche wine producers from across the world to the UK market.	PROJECT PiP: Crafted in Kent - raising the bar for Alcohol-Free wine	£25,682	£26,870



## Business Innovation Vouchers: Round two (cont)

Topic Area	Partners	Industry Profile	Project Aims	Grant value	Industry Co-investment
Sourcing Sustainable Ingredients	The Ramsgate Brewery University of Kent	Ramsgate Brewery has specialised in the use of English hops since it was established in 2002. They brew a range of cask ales, with a popular shop and taproom. They have developed a research and development capacity to test experimental hop varieties.	Enhancing the Uptake of UK Hops by National Breweries through Comprehensive Hop Sensory and Chemical Assessments	£26,504	£29,319
Sourcing Sustainable Ingredients	Wantsum Brewery Ltd. University of Kent	Wantsum Brewery is an independent craft brewery based in Canterbury. They produce nine beers year-round, with many seasonal and special ales sold across the Southeast.	Harnessing UK hops for sustainable non-alcoholic beer production	£29,629	£ 32,400
Sustainable Farming Systems	British Apples & Pears Niab	British Apples & Pears is a grower-funded not-for-profit organisation that represents all commercial apple and pear growers of dessert and culinary fruit in the UK.	Integration of novel products into apple scab management	£15,317	£20,000
Sustainable Farming Systems	British Berry Growers Niab	British Berry Growers is an industry body, representing 95% of all British-grown berries. They represent the interests of large and small growers and work to grow year-round demand for fresh berries.	Augmentoria to boost natural biological control	£28,017	£30,291
Sustainable Farming Systems	Inspiro UK University of Kent	Inspiro UK create high-value, sustainable animal feed and fertiliser from insects for arable and livestock farmers, food producers and retailers.	Enhancing Soil Health Through Innovative Microbiome Manipulation	£29,897	£29,998

## Business Innovation Vouchers: Round two (cont)

Topic Area	Partners	Industry Profile	Project Aims	Grant value	Industry Co-investment
Sustainable materials and packaging	Veraco Ltd University of Greenwich	Veraco is a global hygiene innovation brand. They develop antimicrobial products for a range of sectors, from hospitals and healthcare to hospitality and retail.	Testing the efficacy of chitosan-infused antimicrobial fresh fruit packaging	£27,132	£28,700
Sustainable materials and packaging	Nutri-San University of Kent	Nutri-San is an innovative seaweed technology company offering long-term solutions to some of the world's most pressing environmental and social challenges.	Reducing the environmental impact of commercial seaweed cultivation -	£29,807	£30,100
Sustainable Farming Systems	UK Carbon Code of Conduct University of Kent	The UK Carbon Code of Conduct aims to form a central set of standards. It takes a holistic land management approach to drive investment into nature-based solutions that contribute to the reversal of climate change and biodiversity collapse.	Development of a measure, report and verification protocol for enhanced rock weathering to improve soil fertility	£29,633	£30,000

Figure 8 - Business Innovation Vouchers by Topic (round 2)

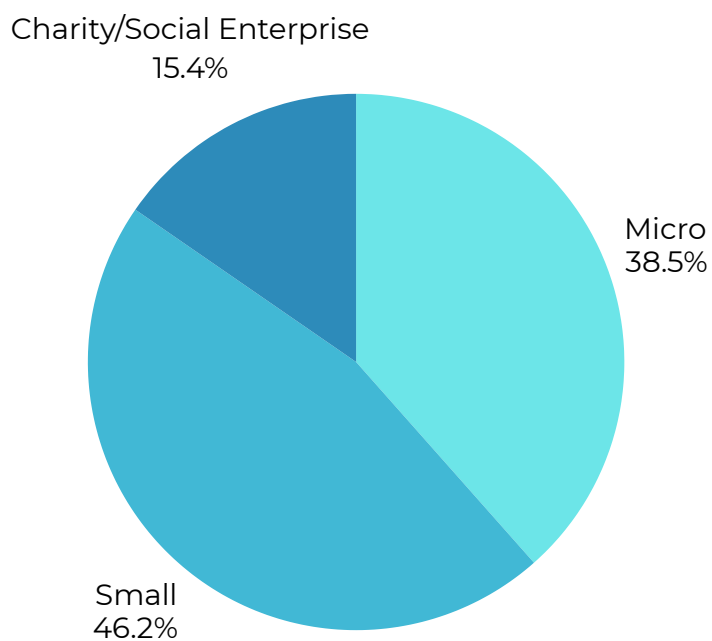
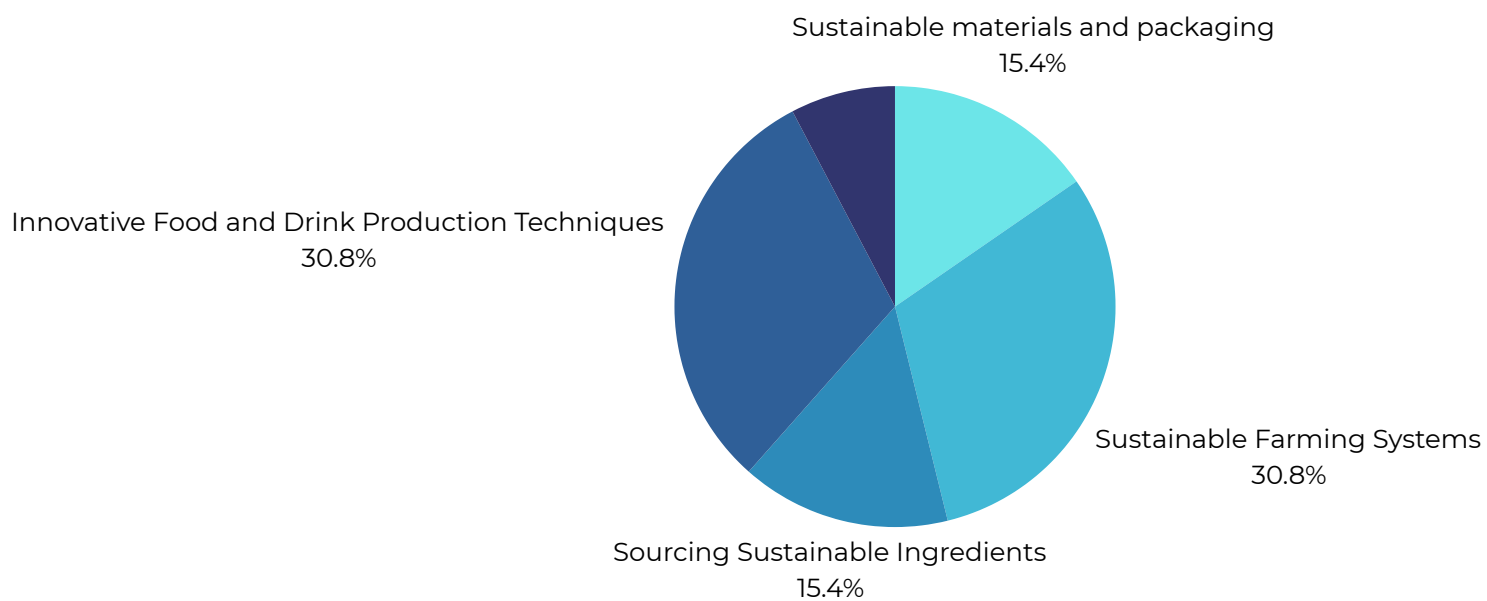


Figure 9 - Business size - Innovation Vouchers winners (round 2)

## Business Sustainability Challenge

The Business Sustainability Challenge grant round one, has been awarded to eight businesses for a total value of over £262,783 for short-term, high-impact innovative projects, with a further £276,424 of co-investment provided by industry partners.

Business Sustainability Challenge Funding, was offered at a value of £10,000 to £50,000 to cover 50% of eligible project costs. These grants aim to support horticultural and plant-based food and drink businesses with innovation in sustainable production, products and packaging in the fresh produce and food and drink supply chain.

In particular, they were aimed at encouraging collaboration between businesses and supporting projects which might create circular economies or find new value-added uses for waste products to benefit the environment as well as economic growth.

These were identified as key areas in the current and future research landscape at the point of baselining the project, and further supported through our experience with the UK Community Renewal Fund (CRF) Growing Green project (see details below) and the areas identified by this pilot where support and innovation for the sector could best be targeted.

A second round of the Business Sustainability Challenge competition was run in 2024, and awarded to six projects for a total value of £199,426, with a further £199,426 co-investment provided by industry partners.

The Business Sustainability Challenge funding was administered by Kent County Council, supported by GKM. Table 6 gives a breakdown of round one projects and Table 7 gives a breakdown of round two projects.

The value of all grants awarded by funding round as a proportion of total grant funding allocated is given below in Figures 9 and 10a and 10b.

## Business Sustainability Challenge: Round one

Table 6

Partners	Project aims	Industry Profile	Industry Co-investment	Grant Awarded	Total Project Cost
<ul style="list-style-type: none"> <li>Tensei Limited (Lead)</li> <li>Kelsey Farms,</li> <li>Essentially Hops</li> </ul>	<p>Application of Agri-Residues (second harvest) as bio-fillers in injection moulded plastic blends for use in fresh produce packaging. - Testing different agri-waste materials as polymer fillers, to reduce the amount of virgin or recycled plastic used, so reducing carbon emissions, and improving mechanical properties of the product.</p>	<p>Tensei specialises in natural fibres to produce innovative materials, using bio- and agricultural waste. They focus on the use of 'Second Harvest', any agri-residues that are left over from primary food crop harvests.</p>	£63,183	£50,000	£113,183
<ul style="list-style-type: none"> <li>Totally Natural Solutions Ltd (Lead)</li> <li>University of Nottingham,</li> <li>Camden Brewing Research Institute</li> </ul>	<p>Development of sustainable CO2 natural liquid hop extracts with high impact ester profiles and functional benefits to beverages. - Developing technology to improve the sustainability of the production of hop-based botanical extracts.</p>	<p>Totally Natural Solutions produce liquid hop extracts, for major brewers and microbreweries as an alternative to dry hop pellets and cones used in brewing.</p>	£49,930	£49,930	£99,860
<ul style="list-style-type: none"> <li>A C Hulme and Sons (Lead)</li> <li>GridDuck</li> <li>Stemy Energy,</li> <li>Produce Quality Centre (NRI)</li> <li>University of Greenwich (Sub contractor),</li> <li>BritishApples and Pears Ltd,</li> <li>Avalon Fresh,</li> <li>JD Cooling</li> </ul>	<p>Managing energy usage in apple cold storage in Kent. - Investigating ways to improve the energy efficiency of the apple cold stores, without compromising the quality of the fruit.</p>	<p>AC Hulme &amp; Sons is a family run mixed farm which has been operating in East Kent since 1946. This is a collaborative project and includes partners working in sensor technology (GridDuck), AI and electronic management of energy use/efficiency (Stemy), and refrigeration and cool chain efficiency (JD Cooling).</p>	£49,786	£49,654	£99,440
<p>Stoneset Management Ltd (Canterbury Brewers &amp; Distillers)</p>	<p>From whiskey to mushrooms - developing a new system that will produce speciality mushrooms, using the waste grain, water, CO<sub>2</sub>, and energy from their new whiskey production facility and create a new revenue stream.</p>	<p>Canterbury Brewers &amp; Distillers are producers of beers and spirits based in their BrewPub, The Foundry, in Canterbury, Kent. As well as offering their products onsite and online, they offer experiences such as tours and tasting days and work closely with other local companies.</p>	£13,811	£13,811	£27,622

## Business Sustainability Challenge: Round one (cont.)

Partners	Project aims	Industry Profile	Industry Co-investment	Grant Awarded	Total Project Cost
<ul style="list-style-type: none"> <li>Grow Up Group Limited (Lead)</li> <li>Salinity Solutions Limited</li> </ul>	Boosting water efficiencies of high care, controlled environment horticulture in Kent using new innovative British technology. - this project will look at improving water efficiency, using next-generation technology, for example recovering and reusing wastewater and investigating best use of collected rainwater.	The Grow Up Group are vertical farmers with a passion for creating a more sustainable food system. At their vertical farm in Pepperness, Kent, they produce longer-lasting leafy greens with a low environmental footprint. Their 'Unbeatable' and 'Fresh Leaf Co' salad brands are sold in large UK supermarkets	£29,586	£29,259	£58,845
<ul style="list-style-type: none"> <li>Nim's Fruit Ltd</li> </ul>	Repurposing Fruit & Vegetable Powders – utilising stored by-products to produce new products which are innovative, affordable, convenient and nutritious.	Nim's Fruit Ltd make natural plant-based crisps, teas, garnishes, and botanicals using innovative air-drying techniques, which enhance the flavour of the product and retain a large quantity of the original nutritional content. They sell their products to restaurants, hotels, and via subscription boxes, as well as high-street retailers.	£22,502	£22,502	£45,004
<ul style="list-style-type: none"> <li>Evogro Limited</li> </ul>	A Novel Method of Seed Delivery for Vertical farming – Producing microgreens, salad leaves and herbs in vertical farms.	Evogro make personal vertical farms for hospitality operators and homes. They use the same technologies as industrial vertical farms but scaled down to appliance size.	£47,627	£47,627	£95,254



## Business Sustainability Challenge: Round Two

Partners	Project aims	Industry Profile	Industry Co-investment	Grant Awarded	Total Project Cost
<ul style="list-style-type: none"> <li>Corona Packaging Limited (Lead)</li> <li>W B Chambers Farms Ltd</li> <li>Machere Ltd</li> </ul>	Incorporating seaweed into plastic blends for sustainable food packaging	Coronex is a startup packaging manufacturer that produces reusable food packaging for the takeaway and ready-meal markets in the UK. They aim to produce innovative and sustainable packaging solutions for a diverse range of food industries	£49,982	£49,982	£99,965
<ul style="list-style-type: none"> <li>Essel innovation and development services limited (Lead)</li> <li>Goacher's Brewery Ltd</li> </ul>	Developing sustainable packaging solutions from brewers' spent grain	Essel Innovation & Development Services specialises in offering tasty, distinctive, and healthy South Indian cuisine in the Maidstone area. They aim to create sustainable, environmentally friendly products that contribute to the circular economy while providing an exceptional customer experience.	£43,260	£43,260	£86,520
<ul style="list-style-type: none"> <li>Fermenti</li> <li>Nim's Fruit Ltd</li> </ul>	Producing fermented snacks from rescued fruits and vegetables	Fermenti is a gut health snack startup that has developed a fermented fruit macaron aimed at supporting digestive wellness. Their products are created using a combination of traditional fermentation and freeze-drying techniques, resulting in both pre- and probiotic snacks containing billions of live microorganisms per portion.	£24,788	£24,788	£49,576
<ul style="list-style-type: none"> <li>Plantworks</li> </ul>	Developing low-cost bioreactors for beneficial microbe production in agriculture	PlantWorks is pioneering the use of beneficial microbes in agriculture, horticulture, and gardening. They are the UK's only mass producer of mycorrhizal fungi, which improve plants' ability to gather resources from the soil. PlantWorks produces a range of products that incorporate mycorrhizal fungi and beneficial bacteria, with the aim of improving soil health and reducing reliance on inorganic fertilisers, while remaining cost-effective.	£46,129	£46,129	£92,258

Table 5

## Business Sustainability Challenge: Round Two (cont)

Partners	Project aims	Industry Profile	Industry Co-investment	Grant Awarded	Total Project Cost
<ul style="list-style-type: none"> <li>• Inspro Ltd</li> <li>• Wanstal Holdings Ltd</li> </ul>	Transforming food waste into animal feed and fertiliser using black soldier fly larvae	<p>Inspro aims to reduce food 'waste' by transforming it into sustainable animal feed and natural fertiliser using black soldier fly (Hermetia illucens) larvae. These larvae efficiently consume large amounts of organic matter and excrete frass: a nutrient-rich, low-runoff, low-emissions fertiliser. Once the larvae have matured, they can be fed to poultry, wild birds, hedgehogs, and fish as an alternative protein source.</p>	£22,816	£22,816	£45,633
<ul style="list-style-type: none"> <li>• RUBISKO Ltd</li> </ul>	Optimising resource allocation in indoor farming through data management platforms	<p>RUBISKO creates bespoke data and operations management platforms for indoor and vertical farming systems. They aim to support sustainable agriculture by streamlining data infrastructure, allowing businesses to optimise resource allocation. This could lead to more efficient use of resources, including water and fertilisers, minimising waste while increasing yields and reducing the environmental impact of indoor farming.</p>	£12,450	£12,450	£24,900

## Large-scale Prototyping and Demonstrator Fund

The Prototyping and Demonstrator round of funding opened in November 2023. This was launched concurrently with the round 2 Business Innovation Voucher competition, so that businesses had two paths available to them to secure funding, depending on the size and nature of their project.

Grant winners were announced in July 2024. A total of £496,458 in grant funding has been awarded to four projects supporting nine businesses, with a further industry co-investment of £213,550.

This large-scale fund allowed businesses carrying out 60% or more of project activities in Kent and Medway to apply for a share of up to £750,000 for innovation and development of new technologies for commercial scale demonstration in the horticultural food and drink supply chain.

Grant winners must collaborate with a Kent and Medway based business or research organisation and technologies must aim to improve sustainability or productivity.

The amount of funding applicants are eligible for (between 25% and 70% of eligible project costs) is linked to the category of research and the organisation size, as detailed on the Innovation Funding Service website. Table 7 gives a breakdown of the projects awarded funding.

## Prototyping and Demonstrator Fund

Partners & Collaborators	Project	Industry Co-investment	Grant Awarded	Total Project Cost
<ul style="list-style-type: none"> <li>Saga Robotics Limited (lead),</li> <li>NIAB</li> </ul>	MiDeVa: Mites Demonstration and Validation. Robotics, automation and AI for advanced pest and disease control.	£42,165	£98,385	£140,550
<ul style="list-style-type: none"> <li>Drytec Spray Drying Limited (lead),</li> <li>Cambridge Glycoscience Ltd,</li> </ul>	Future Dry: Developing healthy food ingredients from agricultural by-products.	£64,059	£149,500	£213,559
<ul style="list-style-type: none"> <li>RePizza Ltd (lead),</li> <li>Cambridge Glycoscience Ltd</li> </ul>	RePizza: Boosting agricultural output through the development of healthier and more sustainable staple foods.	£63,860	£149,008	£212,868
<ul style="list-style-type: none"> <li>Deep Planet Limited (lead),</li> <li>NIAB,</li> <li>English Wines PLC,</li> <li>Gusbourne Estate Ltd,</li> <li>Nyetimber Limited,</li> <li>Rathfinny wine Estate Limited</li> </ul>	VineAI: Artificial Intelligence for Fungal Disease Management.	£43,466	£99,565	£143,031

Figure 9 – Grant Funding allocated by funding round

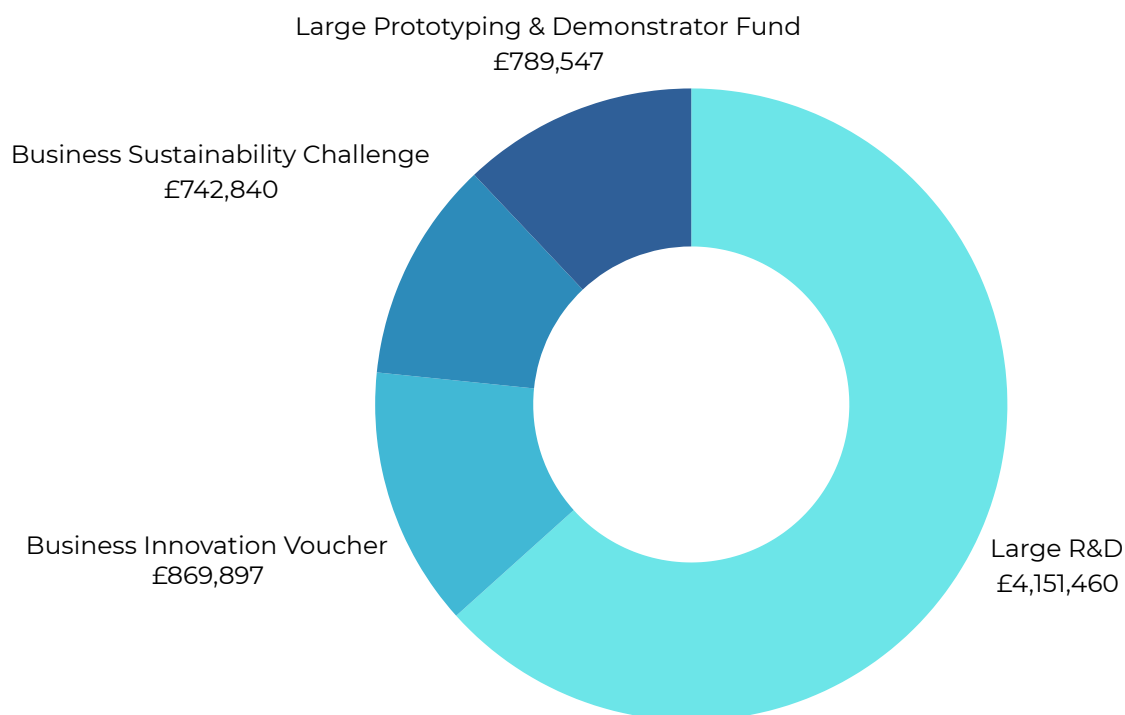


Figure 10 – Total project cost (grant funding awarded and co-investment) of small-scale grant funded projects

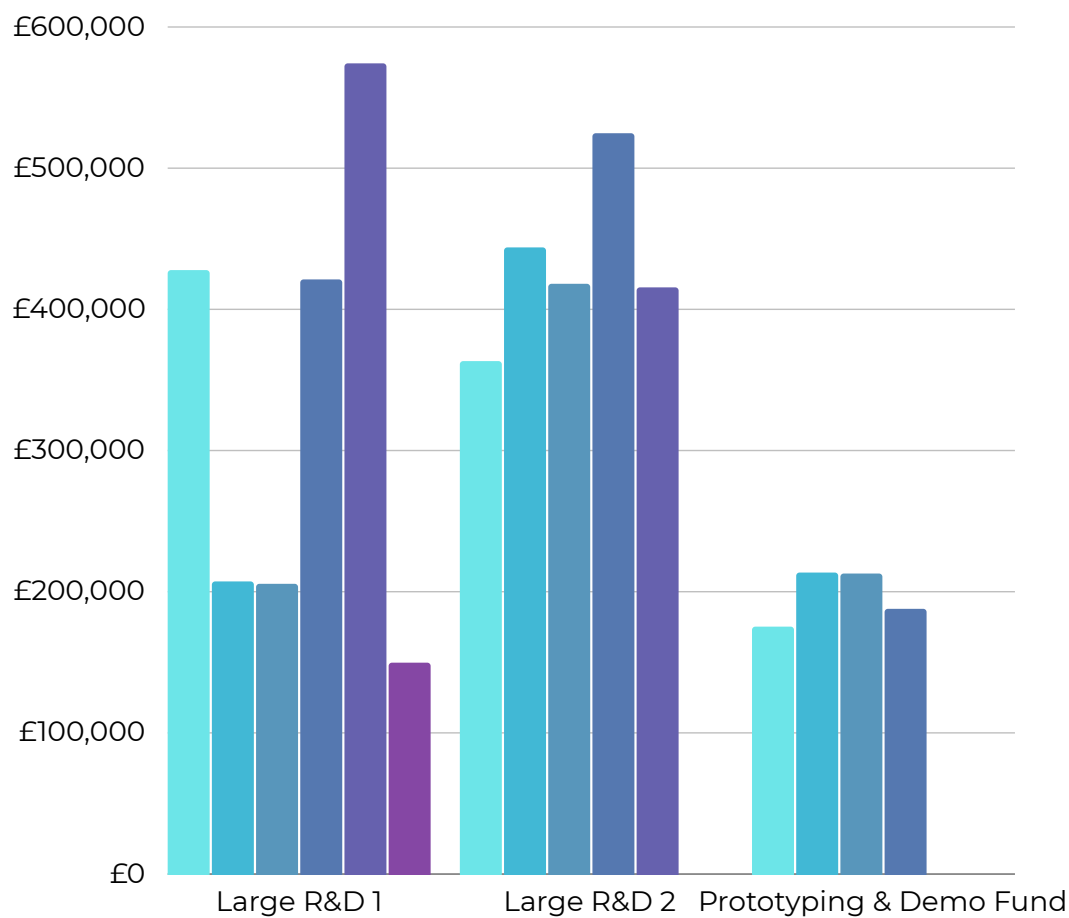
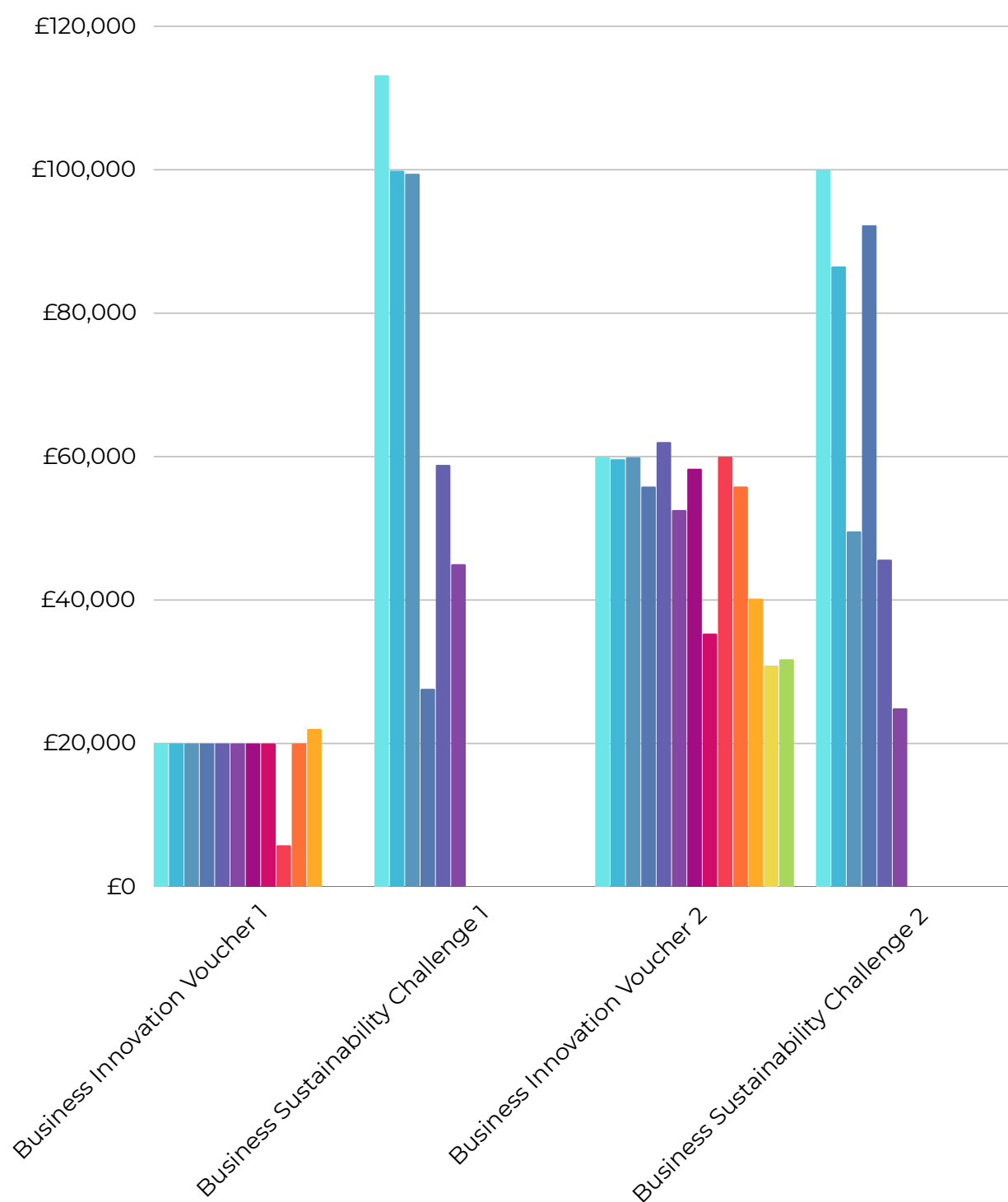


Figure 10b: Total project cost (grand funding awarded and co-investment) of small-scale grant funded project: Value £





## The importance of grant size in secondary funding programmes

Our experience, through the Large R&D grant programmes, Business Innovation Vouchers and Business Sustainability Challenge rounds of funding has taught us the importance of offering a range of grant sizes in secondary funding and in particular the value of including smaller scale grants.

These smaller grants, as seen above in Figure 10b, have been an invaluable tool for engaging with businesses and individuals who might never have applied for innovation funding before. Indeed, only 12% of enquiries received against our two rounds of Business Innovation Vouchers and Business Sustainability Challenge grants were from businesses who had previously received any kind of State Aid (excluding solely Covid-19 support) in the previous three financial years.

Identified as a demonstrable need, through the stakeholder engagement activities undertaken during the seed-corn stage of the SIPF application process, the smaller grant funds enable access to, and a route for funding, for businesses working at a smaller scale, or for those who are just beginning their business journey and for those just starting to look at building innovation into their business.

Indeed, the business landscape of Kent consists largely of small and micro businesses or even self-employed individuals (see the 2023 UK Business Counts<sup>10</sup> data, showing that 89.7% of all enterprises in Kent are micro enterprises), so this was particularly important for encouraging regional businesses to start on their innovation journeys.

For businesses who are just starting out, or who fall into this small or micro category, these smaller funds offer a way around some of the first barriers to accessing funding for innovation activities. The smaller size means, for example, that it becomes more feasible for businesses to put forward co-investment and resources to support the innovation activities. The chance to apply for funds for feasibility studies and projects on a manageable scale for a small business, to try out new ideas with a smaller level of risk, have shown these new applicants just what is possible when investment is made into research and development, even at a lesser scale, and how vitally important it can be to the success of their business.

10: [https://www.kent.gov.uk/\\_data/assets/pdf\\_file/0011/87428/UK-business-counts-statistics.pdf](https://www.kent.gov.uk/_data/assets/pdf_file/0011/87428/UK-business-counts-statistics.pdf)

The wrap around support that we have provided alongside the grant funding has also been crucial, for applicants who might not have considered innovation or R&D activity before, or who would not have been aware of the opportunities that it could offer them. Whether through the guidance, collaboration opportunities, signposting and encouragement offered by our Innovation Growth Managers, our Food Accelerator and Mentoring programmes, our grant fund applicants have been able to gain skills and confidence in the processes and requirements of applying for innovation funding.

When combined with our networking support, communications and promotion activities, as well as follow-on support once beneficiaries reach the end of a programme or project, we believe the experience gained by applicants to our smaller grants is facilitating them to access future grant funding. Further information about the benefits of accessing innovation and research funding for grant funded businesses is available online.

*11. See our website here: <https://www.growingkentandmedway.com/news/top-five-reasons-to-apply-for-business-grant-funding/> and social media here: [https://www.youtube.com/watch?v=MUHMi\\_o34Ug](https://www.youtube.com/watch?v=MUHMi_o34Ug).*

## CASE STUDY: IMPACTS OF SECONDARY FUNDING

### Canterbury Brewers & Distillers

Canterbury Brewers and Distillers are a popular, family run bar, restaurant, brewery, and distillery, located in Canterbury, led by partners Jodie and Jon Mills. GKM has provided funding and support to the business, in the form of a £13,810 grant through the first round of Business Sustainability Challenge funding and through the GKM Mentoring Programme. Their innovative project is trialling the production of specialty mushrooms, using the waste grain, water, CO<sub>2</sub>, and energy generated by whiskey production. Prior to this project, their spent brewing grain was given to a local farmer to use as animal feed. This means that the benefits to Jodie and Jon's business have not only been in the ability to develop new, high-value food products, but also in opening up a new revenue stream by valorising their waste.

Their successful trials of two mushroom varieties – blue oyster and black pearl, have given them the capacity to grow 160kg of mushrooms per week (significantly more than anticipated), which means that rather than just selling the mushrooms in their own restaurant, Jon and Jodie are now exploring new markets and considering building a separate distillery and mushroom farm on a brownfield site to further expand capacity. They are also trialling mushrooms grown on waste botanicals from gin distillation and looking at other possible new grant funding opportunities.

Further, they have trained and up-skilled two employees, as well as themselves, and have the potential to create several new jobs for the local economy. They have generated a high level of interest and engagement through their marketing and social media activities, supported by GKM's communications and networks. They have also created lots of new connections with other businesses, for example, through knowledge sharing with a vineyard in Australia. Jon and Jodie are now looking at other opportunities to apply for new grants.

They say, "Now we've bitten the bullet, and gone for it, we've learned how much easier it was than we anticipated in terms of all the help that [GKM] has given us. Without that support we wouldn't have made the progress that we have, so we realized how important it is to seek out these funding opportunities".



"[The grant] provided the resources needed to invest in key areas such as infrastructure, research, marketing, expansion, training, and partnerships.

This acceleration has enabled us to further develop our sustainable initiatives and enhance our overall business operations."

## Additional Funding

GKM partners have so far secured additional (leveraged) funding of £6,596,974 as a result of and related to their involvement in GKM. This figure is entirely made up of funds brought in from sources outside of the GKM secondary funding, and is a tangible result of the critical mass of expertise and capability built in the region through GKM activities supported by Strength in Places funding.

The increase in sector relevant knowledge, R&D facilities, willingness to collaborate and staff with the capacity to facilitate those collaborations between the area's research organisations and industry, is helping to build our region's reputation as a centre of excellence in our sector.

The region's increased capacity and ability to bid for current and future funding is evident from the range, quantity and quality of additional funding received to date, a breakdown of which is given below in Table 8 and Figure 12.

<b>Project</b>	<b>Funding Body</b>	<b>Research Organisation &amp; Partners</b>	<b>Amount awarded to RO</b>
Workshop - R&D Needs & opportunities in Alternative Proteins	UKRI	GKM & partners	£10,000
A remote sensing approach to monitoring soft fruit growing in Kent and Medway, UK	EU space agency	Niab	£3,249
Developing AI to bridge lab and field plant research	BBSRC	Niab	£253560
Digital Crop Management - for glasshouse pests and diseases	Farming Innovation Programm(DEFRA)	Niab	£352,000

<b>Project</b>	<b>Funding Body</b>	<b>Research Organisation &amp; Partners</b>	<b>Amount awarded to RO</b>
Genetic informed breeding of climate resilient UK crop varieties	Farming Innovation Programme (DEFRA)	Niab	£76,632
PAPPLe II 2024-25	British Apples and Pears	Niab	£70,000
Precision Pollination for Improved Nutrition and Shelf-life	Innovate UK	Niab	£100,000
Spotted Wing Drosophila monitoring	BBG	Niab	£30,000
Tree cutting Ps and Qs propagation quality and production quantity	Tree Production and Innovation Fund (DEFRA)	Niab	£160,000
UK Community Renewal Fund	UK Community Renewal Fund (Growing Green)	Niab	£500,000
Developing agronomic practices to improve soil health and crop productivity	EU	Niab & 15 EU Partners	£294,000
Establishing the impact of winemaking techniques on calcium concentrations in Chardonnay base wines.	Industry - Enartis	Niab & Enartis	£5,061

<b>Project</b>	<b>Funding Body</b>	<b>Research Organisation &amp; Partners</b>	<b>Amount awarded to RO</b>
Malolactic Bacteria trial in English Chardonnay	Industry - Lallemand	Niab & Lallemand	£6,271
FLYTHRIVE Hoverflies for aphid control in soft fruit	Innovate UK	Niab & Olombria, NRI, Summer Berry Company, Asplins	£256,000
Precision Orchard Management for the Environment (POME) project to NIAB	Farming Innovation Programme (DEFRA)	Niab & University of Kent	£734,000 (Niab) £90,017 (UOK)
Developing holistic biological soil health test	Innovate UK	Niab & Verdant Carbon	£160,000
AgriFood4NetZero Network+	UKRI	University of Greenwich	£30,000
BSG4PROTEIN	Eat it up Hubbub	University of Greenwich	£40,000
Dry concentration of buckwheat protein as a novel functional food ingredient	GRI Early Career Academic Pilot Project Fund 2023/2024	University of Greenwich	£4,000
Food Accelerator R&G Innovation fund	Greenwich Research & Enterprise Innovation Fund	University of Greenwich	£13,700



<b>Project</b>	<b>Funding Body</b>	<b>Research Organisation &amp; Partners</b>	<b>Amount awarded to RO</b>
Food Accelerator Roadshow with NRI and the Tony Blair Institute for Global Change (TBI)	International Science Partnerships Fund (ISPF)	University of Greenwich	£91,899
FRESHPPACT call, A paper-based pouch to replace plastics used in packaging	Fresh Produce Impact Hub	University of Greenwich	£34,040
Greenwich Research & Enterprise Innovation Fund	Greenwich Research & Enterprise Innovation Fund	University of Greenwich	£18,920
LUNZ Hub	BBSRC	University of Greenwich	£22,000
PROFILE Protein recovery from microalgae for food using novel extraction and making off-flavour	Innovate UK	University of Greenwich	£154,917
Sustainable lupin protein concentrate production exploration	Faculty of Engineering and Science -ECR network seed funding 2024	University of Greenwich	£1,800
UK Community Renewal Fund	UK Community Renewal Fund (The Kent & Medway Partnership for Enterprise, Food and Health and Medway Together)	University of Greenwich	£1,000,000
BBSRC: Strawberry Botrytis	BBSRC	University of Kent	£24,000
BSPP Undergraduate Bursary	BSPP	University of Kent	£500
Engineering Biology Missions Hubs and Mission Awards	BBSRC	University of Kent	£475,477

<b>Project</b>	<b>Funding Body</b>	<b>Research Organisation &amp; Partners</b>	<b>Amount awarded to RO</b>
Establishing A Thailand-UK Partnership on The Production Of Innovative Bioproducts From Microbial Bioresources And Fungal Platforms	Academy of Medical Sciences (United Kingdom)	University of Kent	£25,000
Leverhulme grant: Plant Plasmids: A novel method of gene introduction	Leverhulme Trust	University of Kent	£159,131
Plant Plasmids: Developing a novel GM method of gene introduction	Royal Society Funding	University of Kent	£19,833
SoCoBio bursary	BBSRC	University of Kent	£1,000
SoCoBio Undergraduate bursary	BBSRC	University of Kent	£2,000
UOK The Positive Environmental Futures SRT: healthy 'upcycled' foods made from viticultural waste.	HEIF	University of Kent & Defined Wines	£150,000
Non-conventional yeast strain optimization for industrial protein production using deep learning	UKRI	University of Kent & HerLab	£87,466
Novel low-emission food production systems: Feasibility studies, Unlocking the Next-Generation Protein Expression Systems for Animal-Free Cheese Production	UKRI - Novel low-emission food production systems: Feasibility studies	University of Kent & HerLab	£113,830
AlgaeUK Innovation Voucher - Harnessing the antifungal activity of brown, green and red seaweeds	Algae UK	University of Kent & Nutri-San	£20,000
HEIF Recovery Innovation Fund, investigating retention of grapes during postharvest handling	HEIF	University of Kent & Prepworld	£4,639

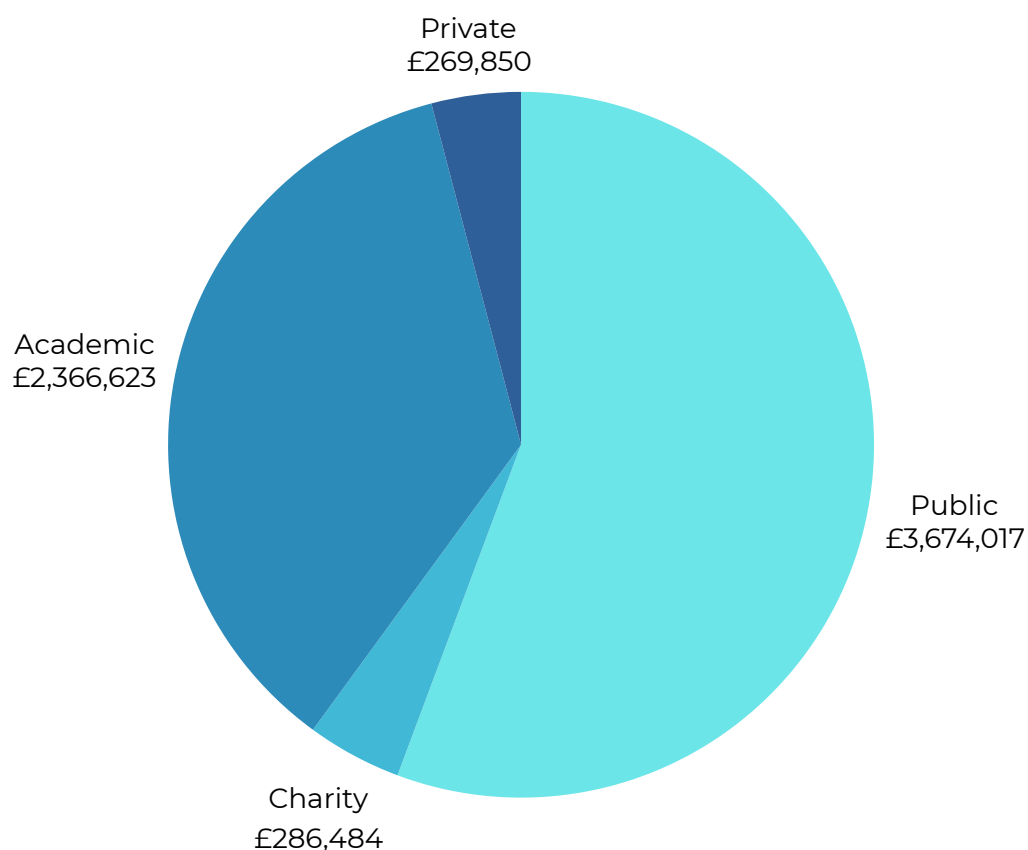
Project	Funding Body	Research Organisation & Partners	Amount awarded to RO
Farming Innovation Programme - Determining the health benefits of a variety of Kent cherry products and develop new foods from cherry waste.	DEFRA, UK Government	University of Kent & Rent a Cherry tree	£187,581
PhD studentship - Engineering bacterial biofilms to protect plants against fungal pathogens	University of Kent	University of Kent & Syngenta	£86,620
New Frontiers in Research Fund – International Title: Building resilience: How conservation agriculture can help smallholder women farmers adapt to climate change	New Frontiers in Research Fund	University of Kent & Toronto Met. University	£412,584
BBSRC IAA: anticancer hops	BBSRC	University of Kent & Wye Hops	£10,000
DEFRA Farming Futures: Genetic Informed Breeding of Climate Resilient UK Hop Varieties	UKRI	University of Kent & Wye Hops	£190,741
Farming Innovation Pathways - Black Soldier Fly	UKRI	University of Kent, Inspro & Agrigrub	£74,522
Rapid evolution Individuals	BBSRC IAA	University of Kent, RAGT & NPZ UK	£19,984
Anticancer Hops	MRC IAA	University of Kent, Wye hops & BSPG labs	£20,000
		<b>Total</b>	<b>£6,596,974</b>

The majority of the additional leveraged funds awarded to our Hubs have been publicly funded through UKRI, Innovate UK and via programmes such as Defra's Farming Innovation Programme. Many have been collaborative in nature, including consortiums of multiple research organisations and industry partners. These awards have therefore secured significant co-investment into the region from industry, an important key performance indicator for GKM.

The value of this co-investment is currently being established. Some additional funds have been awarded via charities, such as the Eat it up Hubbub Fund, and academic routes, for example directly through university innovation funds. Figure 12 shows a breakdown of the leveraged funding by type.

GKM, is actively seeking out investment and leveraged funding to support the legacy of our programme. Given the increasingly competitive nature of public funding, this also includes a focus on private and charitable funding for elements of our activities and special focus areas. Examples include our inclusion as a "spoke" for the Bezos Sustainable Protein Centre "hub" led by Imperial College, a \$30m initiative funded by the Bezos Earth Fund, where GKM will lead the plant-based protein crop research. We are also continuing to look for a private sponsor for our Food Accelerator programme.

*Figure 12: Leveraged funding secured by funding type*



## Number of Enterprises Supported and New to Market Products

Since GKM's inception, we have worked hard to extend our reach to as wide a range of horticultural and plant-based food and drink businesses as possible, and to support the broadest range of innovation activities within our remit. So far, we have provided 12 hours or more of direct support or more than £1000 of grant funding in our programmes through 383 collaborations and engagements with 224 unique businesses. This includes through mentoring of people (16 businesses), support for businesses attending our food accelerator workshops (91 businesses), and carrying out research and related activities through our GreenTech Hub (22 businesses), the Medway Food Innovation Centre (78 businesses), the Biotechnology Hub (45 businesses), support provided by our Innovation Growth Managers (84 businesses) and grant funded projects (47 businesses). Many businesses working with GKM have received support from multiple programmes.

To date, the Food Accelerator, supported by the Mentoring Programme, and working closely with the MFIC have been instrumental in supporting 30 businesses to bring their products, processes and services to market. Five other businesses have been supported to develop their new products or processes directly by the facilities at the Biotech Hub and MFIC. Between them, these programmes have supported businesses to bring a total of 36 new food and drink related products and/or processes or services to market, as can be seen in Table 8 below.

Research projects are currently underway, with the potential for more products to be brought to market because of their activities. There is a well-recognised time lag between R&D activity and commercialisable outcomes, so it is too early to provide a full report on the commercialisable outputs from these projects. However a few examples of the expected outputs include a plasma biochar retort production system; a small-scale intelligent (vertical farming) growing system for producing young brassica crops with high nutritional value; a process for producing locally made, recycled coir (to be used as an alternative to virgin coir); refined microbiome additives or inoculum for growing raspberry plants; and plant-based fibres which can be produced in a vertical farming system.

The recently launched GKM large Prototyping and Demonstrator grant fund, due to its focus on prototyping and technology, is anticipated to bring further new products/processes to market.

Product/process/service	Business	Food Accelerator	Mentoring	MFIC	BioTech Hub
Plant-based prawns	Food Squared	Y		Y	
HACK convenience coffee	Neuron wellness (Hack Coffee)	Y		Y	
WuraBrew range of drinks	Erema Botanics	Y		Y	
Seitan products	Planet Seitan	Y	Y	Y	
Chilli infused oils and condiments	Beebeespices	Y	Y	Y	
Individual cookies and New business model for branded promotion of cookie dough food product.	More Tasty Crumbs	Y	Y		
African Honey Beans	Mama Garri	Y	Y	Y	
Fruit tea	Bohemian Treats	Y	Y	Y	
Vegan gluten free doughnuts with extended shelf life	Borough 22	Y		Y	
Spicy beer	Babrani Ltd	Y	Y		
Improved longer shelf-life energy paste	Enduosport	Y	Y	Y	
Bhaji Burger	The Indian Dish	Y			
Fermented cookies	Fermenti	Y	Y	Y	
Chilli sauce condiment	M's Hotsauce	Y	Y	Y	
Long-life canned lemonade	Beardy B's Lemonade	Y	Y	Y	

Product/process/service	Business	Food Accelerator	Mentoring	MFIC	BioTech Hub
Dried toddlers' ready meals	More Toddler Meals	Y		Y	
Tadkas, nutrient dense oil	All the Aunties	Y	Y	Y	
Frozen plant-based children's ready meals	Wildly Tasty	Y		Y	
Vegetable Stews and Sauces	Ataibo Foods by Wilderness Yield	Y	Y	Y	
Vegan chocolate covered ice cream	Mochi Bros	Y			
Activated Granola	Nutrinannaa's by Eis Catering Services	Y	Y	Y	
KASP marker (F4)	Wye Hops		Y		Y
Insect based protein feed	Inspro				Y
Recyclable novel 35 punnet	Sharpak				Y
Pear Juice (Nashi Gold)	JL Baxter				Y
Flavoured Vegan tea latte	Humanitea			Y	
Veringue (vegan meringue)	Pretty Pink Potato	Y	Y		
Freeze Dried Cherry powders & side streams	Rent a Cherry			Y	Y
Coconut Flower Vinegar	Neitiv	Y			
New jam & pickles flavours	Karly's Kitchen	Y			

Product/process/service	Business	Food Accelerator	Mentoring	MFIC	BioTech Hub
Fruit Crisps	SweetDoughThings	Y		Y	
Blackberry Whiskey	Wild Spirits of Kent	Y	Y	Y	
Dried Mushrooms in a Jar	Margate Mushrooms	Y	Y	Y	
Grow in a bag Oyster Mushrooms	Margate Mushrooms	Y	Y	Y	
Plum Porter	Dockyard Jam Factory (with Moot Brewery)	Y	Y	Y	
Ice cream using fruit jam	Bears Ice-cream (with Dockyard Factory Jam)	Y	Y		
	<b>Total</b>	<b>30</b>	<b>20</b>	<b>24</b>	<b>5</b>



# Clustering, Interactions and Collaborations

GKM is enhancing local, regional, national and international collaborations and interactions, weaving a lasting network around future growth industries in horticulture, fresh produce and food manufacturing.

We are connecting industry, scientists, technologies and entrepreneurs and bringing people together through a wide range of industry relevant events, learning opportunities and networking. Furthermore, we are actively catalysing collaborations between industry and research through our grant funded projects, our facilities and research expertise.

This is borne out by our 145 collaborations between industry partners and our facilities hubs. Furthermore, our recent Annual Business Innovation Survey showed that 61% of responding businesses agreed that interacting with GKM had already increased their collaborations with other organisations. When asked how GKM had helped respondents to increase their collaboration activity, we noted that a good proportion of free text responses (44% of responses) mentioned as important the increased networking opportunities and support provided directly by GKM for connections and partnerships to be made.

## Internal Collaboration

GKM has extended its reach and impact both nationally and internationally, acting as a gateway for innovation and research in horticulture and the fresh produce sector.

In the Spring of 2023, we hosted the House of Lords Select Committee on Horticulture at Niab in East Malling. While in September 2023, at the Medway Food Innovation Centre we hosted a Canadian delegation to explore partnership opportunities in alternative proteins R&D as part of the UK-Canada Global Business innovation programme.

In the summer of 2022, we coordinated the visit of The Israeli Minister for Agriculture and Rural Development, Oded Forer, to Niab at East Malling and a leading Kent based strawberry grower, and we also hosted structured visits for the Horticulture Trade Mission of the Embassy of the Netherlands in the summer of 2023 and Autumn 2024.

Our ambition for our work with the Dutch Embassy was to focus on exploring innovation opportunities to stimulate support for a new bi-lateral funding agreement between the UK and the Netherlands to develop international horticultural research collaborations.

These events have been an important step in the pathway to increasing international influence and recognition for the Kent and Medway region and our sector, drawing in greater levels of investment and talent. After our work with the Dutch Embassy, for example, GKM was recognised for its role in facilitating the International Innovation Breakfast at Fruit Focus, enabling visits to progressive UK growers, planning the joint UK-Dutch Workshop at the Dutch Embassy, and continuing to facilitate ongoing conversations between Innovate UK and BBSRC.

The Head of Translation and Innovation Capability at BBSRC said that GKM support was "crucial to generating an international partnership that may prove to be of major strategic importance to the UK, particularly in the context of securing access to EU horizon funding" going on to say that it is "a wonderful example of how the SIFP programme can strengthen the national UK research and innovation landscape and support the work of UKRI councils." This international influence and collaboration have thus, enabled proposals to be developed for multiple bilateral funding calls between UKRI and the Netherlands to progress.

GKM's international influence has been furthered by our partner Locate in Kent, Kent's inward investment agency, who are providing wrap-around support for businesses setting up, bringing in talent or new investment to the region.

In a recent report published by Locate in Kent (October 2023), 'Investing in Kent for future generations'<sup>12</sup>, the continuing strategic importance of Kent to the nation's growth was highlighted, including through faster distribution and trade via Kent ports, preventing cost of living crises through green energy production and increased UK food production year round, increased manufacturing space for businesses onshoring or moving out of London and around one million square feet of science space helping the UK to remain a leading life science centre.

12. <https://www.locateinkent.com/investing-in-kent-for-future-generations>

## CASE STUDY: INTERNATIONAL REACH

### Nutri-San

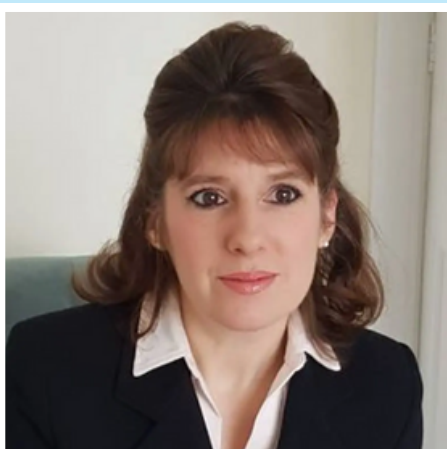
Nutri-San are an innovative biotechnology and seaweed technology company, introduced to GKM through Locate in Kent.

Their animal feed supplements are produced from sustainably produced seaweed blends (wild and cultivated) with the aims of delivering environmental and health benefits, alongside employment opportunities including in marginalised coastal areas across the globe. Nutri-San work through and with their supply chains to support local and rural communities and enhance producer livelihoods across coastal communities in the Philippines, Indonesia, Vietnam and Zanzibar.

Together with the University of Kent's BioTech Hub, Nutri-San were awarded an Algae UK/ BBSRC grant to conduct research on their seaweed blends and enable them to explore alternative uses for the by-products of their production processes, including as horticultural and agricultural bio-stimulants.

Subsequently they were awarded a Business Innovation Voucher through GKM to investigate a method of reducing the environmental impact of commercial seaweed cultivation using biofilms. The continued collaboration between the business and academia has gone from strength to strength, including a recent collaboration with the Biotech Hub looking at developing new techniques for transforming seaweed extracts into a plant based thickening agent for food and pharmaceuticals.

Nutri-San are an active member of the GKM project, supporting and engaging with many of our events. Dr Michelle Marin Chau, Communications Director at NutriSan, also acts as one of our GKM volunteer business mentors to support our start-ups and businesses looking to scale up, as well as having recently become an honorary member of staff at the University of Kent as one of the Board of Advisers at Kent Business School.



*Dr Michelle Marin Chau*



*Nutri-San CEO, San Chau and the Nutri-San team together with University of Kent's Dr. Rob Barker and stakeholders in Zanzibar at the signing of the Joint Venture Framework agreement with Zanzibar's state-owned seaweed company, ZASCO.*

# A Centre of Excellence

GKM are leading the way in providing best practice advice and guidance at a local, regional and national level, for example with the publication of our White Papers including, the Workforce 2030 Skills Research Report<sup>13</sup>, the Workforce 2030 Strategy<sup>14</sup> and the Alternative Proteins Identifying UK Priorities Roadmap<sup>15</sup> reports.

We also have special focus groups working in sustainable packaging, biorefining and agri-waste, and agri-engineering and agri-tech. These White Papers and special focus groups not only support us in influencing regional and national policy, but also build capability and reputation for interaction, collaboration and influence across the sector by bringing together expertise in academia, research, technology and industry to focus on these key subjects.

## Case study: Workforce 2030 Strategy

The Workforce 2030 Strategy was developed through a process of research and consultation with industry, Higher Education, Further Education and other key stakeholders such as civic leadership. The consultation process included a questionnaire delivered through our website, focus groups and workshops, run by Locate in Kent.

The consultation brought key players to identify skills gaps in the sector. It addressed six main challenges in the sector:

- Recruitment and retention of labour,
- Improving current curriculum and qualification pathways,
- Creating new sector-specific engineering qualifications and training,
- Bespoke leadership and management training programmes for the industry,
- Supporting innovation in areas like automation, sustainability and quality, and
- Improving communication and engagement between employers, education and individuals.

The Strategy and recommended actions highlight the importance of collaboration and dialogue between industry, Further and Higher Education and providers of training, to bring careers and career pathways in the sector to the fore as well as developing needed upskilling, training and qualification programmes, particularly around engineering skills for the rising use of automation and new technologies in the sector. It is from this work that our collaboration with The Institute for Agriculture and Horticulture (TIAH) to produce a regional skills hub (more details given under “Clustering for Success”) and our opening of the new Industrial Agri-Engineering Hub with Canterbury Christ Church University were born. These initiatives directly respond to the needs of our cluster to support future investment in skills development and employment in the region.

13. <https://www.growingkentandmedway.com/media/bjdhlpoz/gkm-workforce-2030-skills-research-report.pdf>

14. <https://www.growingkentandmedway.com/media/lzqflzp4/gkm-workforce-2030-skills-strategy.pdf>

15. <https://www.growingkentandmedway.com/media/ppcd3bci/iuk-100622-alternativeproteinsreport-final.pdf>

Further, GKM are pleased to have partnered with industry collaborators to support the opening of the Thanet Earth Centre of Excellence @ Hadlow College. Officially opened by Roger Gough, leader of Kent County Council on June 5th, 2024, the Centre is the UK's first Centre of Excellence in glasshouse growing; launched in response to concerns about the lack of skilled workers in the sector. It will connect Hadlow College with the horticulture sector, giving horticultural students the opportunity to work directly with Thanet Earth the UK's largest glasshouse salad supplier to develop their skills and grow hydroponic tomatoes in a commercial crop environment. The launch attracted positive media coverage, including ITV Meridian, BBC and Radio 4 and was attended by more than 85 industry members and stakeholders.



Through the Strategy we have developed links between the GKM Hubs, partners and researchers with businesses, support organisations and local government/civic bodies, including Kent County Council, Low Carbon Kent and the Kent Invicta Chamber of Commerce, Social Enterprise Kent, TIAH, Canterbury Business Improvement District and others. The Strategy also fed into the Local Skills Improvement Plan for Kent and Medway, produced by the Kent Invicta Chamber of Commerce.

These relationships with anchor-institutions within the business ecosystem, have helped to build a framework of enduring connections to enhance and increase capability for future interactions and collaborations.

Our Growing Green pilot programme, funded under the UK Government's Community Renewal Fund, is another good example of how the close links we have forged with local civic organisations (e.g., Low Carbon Kent, KCC, Produced in Kent) has delivered tangible benefit to the region's business community and catalysed ongoing support for our work.



FRASERS

## CASE STUDY: GROWING GREEN

### Fraser's of Egerton

In 2022, we ran the Growing Green pilot decarbonisation programme, through support from the UK Community Renewal Fund. With a focus on moving towards net zero, the Growing Green pilot was led by GKM and delivered by Niab, Low Carbon Kent, Locate in Kent, Produced in Kent, University of Kent, the Kent Foundation and APS Produce Ltd.

The programme supported 33 businesses in the agri-food sector to reduce their carbon emissions and become more sustainable by facilitating knowledge and skills development. It also provided a total of £180,000 in grant funding for net zero innovation across 24 of the businesses. A co-designed training package together with support from practitioners was provided for each participating business, helping them to develop their own Decarbonisation Plan to move towards net zero carbon emissions.

We produced a number of case studies<sup>16</sup> as a result of the pilot, which we have made available along with resources for businesses interested in finding out about going carbon neutral.

An independent evaluation<sup>17</sup> of the Growing Green pilot found that the project is likely to deliver significant economic benefits, with 21 gross jobs and 14 net additional jobs expected to be created. By 2028, the project is forecast to have delivered over £3 million in net additional GVA in Kent and Medway.

Several of the businesses involved in the Growing Green programme have continued to benefit from GKM support. One such is Fraser's of Egerton<sup>18</sup>, a small private Kentish Estate, with a commitment to the environment and an ethos of sustainability. The Estate offers holiday accommodation, events, a restaurant and shop and well-being retreats alongside the family-run livestock farm and low-intensity grasslands.

Fraser's used a Growing Green grant of £8000 to convert a 40-foot shipping container into a retail outlet in which the estate could sell excess fruit and vegetables from the gardens as a "click and collect" food hub for local producers. It also created ambient storage for their Christmas puddings, a product previously made for their restaurant and hospitality customers, for which Fraser's had seen high demand.

The extra storage space enabled Fraser's to upscale their production and continue their manufacturing process year-round. In keeping with their net carbon neutral Estate, the container was fitted with a solar array on the roof, which provided renewable energy for an air conditioning unit to keep products at the correct temperature. At Fraser's, over 55% of their energy is generated from renewable sources, which contain a mix of air and ground source heat pumps and solar arrays. They have incorporated rainwater harvesting technology and closed composting and recycling systems. They also operate with short supply chains, choosing local producers and suppliers where possible.

16. <https://www.growingkentandmedway.com/growing-green/growing-green-case-studies/>

17. <https://www.growingkentandmedway.com/media/0vvc1svk/summative-assessment-of-the-growing-green-project.pdf>

18. See more about Fraser's on their website here: <https://frasersegerton.co.uk/sustainability/>





FRASERS

## CASE STUDY: GROWING GREEN

### Fraser's of Egerton (cont).

Lisa Fraser went on to take part in the Food Accelerator Programme, where she was an inspiration and further source of knowledge for the food and drink start-ups in the group, with her extensive experience of running her own business, finding funding, and managing finances.

The Food Accelerator offered her support with the tools and knowledge to scale-up their food production and, crucially, afforded her with a new social network of like-minded peers that she could continue to turn to for support.

Fraser's are now selling their award-winning low carbon luxury Christmas pudding, hand-made in Kent from local ingredients and recycled packaging to a range of high-end venues, including in 2024, the House of Commons. They have even started selling their mincemeat in the Seychelles. A vegan and free-from version of the pudding is also being developed.



*Fraser's exhibiting at the Speciality Fine Food Fair in London, September 2023*



*Fraser's Christmas Puddings stocked by the House of Commons in 2024*

# Clustering for Success

In a 2018 Brookings Institute report<sup>19</sup>, the authors investigated lessons for policy makers that could be drawn from case studies and literature on innovation clusters. They identified a series of success factors which describe the characteristics often found in successful innovation clusters. These factors align well with the central characteristics exhibited in GKM's activities, outputs and outcomes and as such are detailed below:

## 1. **A core competency** (an area that the cluster is strong in).

GKM builds on the region's long-established reputation as the UK's leader in the production of high-value horticultural crops and fresh produce food and drink processing. Underpinning this activity, our cluster has developed as a centre of excellence with a range of cutting-edge research expertise and facilities in the areas of:

- crop production systems
- viticulture
- plant growth and management
- plant proteins and alternative proteins
- processing technologies
- new product development
- sustainable packaging and sustainable food production
- plant pathology and genetics
- chemical analysis of plant-based compounds
- soil science
- robotics and agri-engineering
- alternative fuels and manufacturing
- business skills including start-up support for food and drink businesses and business growth and development and much more

The wide range of research and innovation areas covered by our grant funded projects, as detailed in previous sections, shows the depth and breadth of our offer and the many ways in which we are coming together with industry to apply arrange of expert knowledge and capabilities to help develop real world solutions to some of the biggest issues facing the sector today. At the same time, we are supporting new food and drink production businesses to get off the ground and providing an environment in which they can thrive and grow.

19. Bailey, Martin Neal & Montalbano, Nicholas, 2018, "Clusters and Innovation Districts: Lessons from the United States Experience" [es\\_20180508\\_bailyclustersandinnovation.pdf \(brookings.edu\)](https://www.brookings.edu/wp-content/uploads/2018/05/08_bailyclustersandinnovation.pdf).



There is now a critical need for the competency of our cluster both in our region and the country. The Government, recognising the key importance of the sector to the nation and its health commissioned the National Food Strategy<sup>20</sup>, published in 2021, to consider the entire UK food chain, with the aim of creating a more equitable, sustainable and health focused food system in the UK. Subsequently, the UK Food Security Index 2024<sup>21</sup> (based on 2022 data) shows that while the UK is broadly self-sufficient in producing the cereals, meat, dairy and eggs, fresh vegetables and fresh fruit production face much greater challenges, with the UK running at ratios of just 55% and 17% production to supply, respectively. DEFRA's "Agriculture in the United Kingdom 2022" report on overseas trade imports<sup>22</sup> likewise shows that fresh fruits and vegetables remain the highest value category for food imports, totalling £6.6 billion in imports in 2022 alone. Meanwhile exports of fresh vegetables rose by 19% to £18 million and fresh fruit by 3.3% to £64 million.

With stark impacts from climate change, global supply chains (for farming inputs such as fertiliser and packaging) and the role of myriad other production challenges such as soil health, pathogens, pests, biodiversity and water, the support of our cluster is critical to an industry facing an uphill battle towards a more resilient and sustainable domestic production.

## 2. **People** (strong leaders, highly qualified researchers and a skilled workforce).

The research expertise offered through our four Hubs, along with our technically trained Innovation Growth Managers (IGM's), and the business and technical support offered via our Food Accelerator and Mentoring programmes, evidence the importance that GKM places on skilled leaders, teams and staff.

We strive to facilitate skills and knowledge building among supported businesses by working with them to develop grant funding applications, connecting industry and sector relevant research expertise, hosting networking events, and identifying and enabling cross institutional opportunities for collaborative innovation. We have provided more than 100 businesses with 12hrs or more of business support through our Food Accelerator and mentoring programmes alone.

As previously described, GKM also places a strong emphasis on supporting sector-specific skills development to build a highly trained, future-ready workforce in the region.

20. *National food strategy for England* - GOV.UK ([www.gov.uk](http://www.gov.uk)).

21 *UK Food Security Index 2024* - GOV.UK ([www.gov.uk](http://www.gov.uk)).

22 <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2022/chapter-13-overseas-trade>

3. **Culture** (for sharing of ideas within business and between researchers and for a lifestyle which attracts talent). Creating an Ecosystem of sharing ideas.

GKM is helping to foster cooperation, collaboration and idea sharing. More than this, the project is building and embedding a culture of trust-based working across our networks. It is the complete picture of support flowing from one element of the GKM programme to another which is enabling this.

We are bringing together diverse groups of people, by providing access to knowledge, skills, expertise, and networking opportunities, such as the GKM Showcases in June 2023 and June 2024 or the West African Food Festival at Macknade in Faversham. These activities are enabling people to understand each other's businesses and challenges, to share ideas and to develop social capital amongst their peers and networks.

These elements of support are then combined with introductions and referrals that businesses might not otherwise have received, grant funding to boost innovation and research activity and, in some cases, a sense of improved wellbeing, in terms of heightened confidence, inspiration or encouragement to innovate and grow.

The combined result of these strands of support is an enhanced willingness to innovate and/or collaborate, as evidenced by our Annual Business Innovation survey which found that 89% of respondents stated they were collaborating with other businesses, research organisations or other organisations. Sixty-one percent of these businesses attributed GKM for an increase in these collaborations. In contrast, the ERC<sup>23</sup> found that just 22.3% of firms in the Southeast were partnering with other firms as a part of their innovation activity.

We also noted that free text responses to questions about how GKM has helped collaboration and innovation activities were indicative of a healthy culture of collaboration, including words and phrases such as "enriching", "exciting", "motivated", "confidence", "cross pollination of ideas", "opened my eyes", "understand each other's businesses" and "build trust", as well as others that we were expecting to see around networking, skills and knowledge, facilities, grant funding, mentoring and referrals.

23. ERC (2021a) *Benchmarking Local Innovation. The Innovation Geography of England 2016-2018*. <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2021/07/ERC-Report-Benchmarking-Innovation-Final-2021.pdf> (Accessed 23 November 2021).

## Case study: The GKM Showcase and The African Inspired Food & Drink Festival

GKM held a Showcase event at the University of Kent in June 2023 and at Niab in June 2024. These events were aimed at GKM members and businesses across a range of programmes, from grant fund winners to those receiving business support through the mentoring programme. The events were attended by 92 delegates in 2023 and 89 in 2024.

In 2023, there was a range of influential speakers including Katrina Hayter, the then Industrial Strategy Challenge Director, Transforming Food Production/Defra Farming Innovation at UKRI, Kent County Council and innovative local business leaders, all of whom are taking part in the GKM project. These included, Stefano Cuomo from Macknade, Jason Perrot from Ro-Gro, Clive Baxter from JL Baxter & Son, Doug Wanstall from Regeneration Earth, Azhar Murtuza from Born Maverik, Nimisha Raja from Nim's Fruit Crisps and Michelle Marin-Chau from Nutri-San.

In 2024, the event featured tours of the research facilities and showcased GKM supported projects, and both events gave businesses on the Food Accelerator Programme the opportunity to present their products, conduct market research and meet new potential suppliers or customers. In 2023, the Showcase also offered the chance for businesses to sign up to micro-mentoring sessions, short intervals of targeted support, with a mentor in a subject of their choice.

In September 2023 the African Inspired Food & Drink Festival was held in collaboration with the GKM Food Accelerator and Macknade, at their Food Hall in Faversham. The event was made possible after Macknade attended our member Showcase Day and met food producers on our programmes. Members of the Food Accelerator had the opportunity to promote and sell their products, including sugar-free chocolates, chilli-infused olive oils, bean porridge and African inspired drinks made from tiger nut and hibiscus flower, as well as interact with the public to seek customer feedback. Seven Food Accelerator businesses took part and feedback from the event afterwards was overwhelmingly positive. See the GKM website for more detail on this story.<sup>24</sup>



# MACKNADE

*Food Accelerator business, Mama Garri, exhibiting at Macknade, Faversham*

<sup>24</sup> <https://www.growingkentandmedway.com/news/a-flavour-of-west-africa-comes-to-faversham/>

#### 4. **Business capabilities** (the skills to develop the business)

Through our programme of events, our Food Accelerator and our Mentoring Programme, GKM is enabling businesses to develop their skills and capabilities for innovation. We have delivered 99 GKM events to date attended by more than 200 different businesses. 67 of these events were our well received Business Innovation Masterclasses. These events create connections, build skills and deliver training in a huge range of sector relevant subjects, from brand and marketing, to sustainability, packaging, funding, R&D tax credits, food safety, research, scaling up and commercial premises and many more.

Through our Mentoring Programme we have delivered more than 500 hours of support to more than 90 businesses, (16 have received 12 hours of support or more) and through our Food Accelerator programme we have supported 91 businesses for more than 12 hours to enable them to solve a range of business and technical challenges as they scale up. Our business support programmes and events are not only assisting businesses in the cluster to develop skills and knowledge, but also to develop the absorptive capacity to enact and integrate this knowledge into their business

Our collaboration with the Institute for Agriculture and Horticulture (TIAH) ([Home page - TIAH](#)) to provide the UK's first region-specific skills and training portal for the fresh produce sector, supporting sector relevant skills, learning and careers is also allowing us to drive business capability forward. GKM is working with TIAH to develop the resources, guidance and materials that are available through the Skills Hub to support people into and throughout their careers in horticulture, fresh produce and food manufacturing. The Skills Hub provides local information about employers, job profiles, and career pathways for the Kent and Medway region. This has been informed by real world examples and role profiles from our regional businesses.

#### 5. **Sophisticated Demand** (a market for the innovative product or services either within the cluster or accessed nationally or globally by companies from the cluster);

At the time of the SIPF grant award to GKM Christian Brodie, Chairman of the South East Local Enterprise Partnership (SELEP), which backed the bid to government, said: "Our area already delivers 40% of high-value horticulture in the UK", and likewise, Kent County Council's "Climate Change Risk and Impact Assessment for Kent and Medway Part 2: Agriculture Sector Summary" from 2020 reported "In total, the agriculture sector accounts for two thirds of national tree grown fruit and one third of all strawberry production in the country".<sup>25</sup>

The value of fruit production in the UK as a whole increased by 3.1% in 2023, valued at just over £1 billion, with soft fruit increasing by 19% to £755 million.<sup>26</sup> It, therefore, continues to be the case that there are significant growth opportunities around new technologies, markets and innovations in the sector. By working closely with industry across our facilities and programmes GKM is able to respond dynamically to the identification of market demands, needs and opportunities across the cluster.

25. [https://www.kent.gov.uk/\\_\\_data/assets/pdf\\_file/0016/111382/CCRIA-for-Kent-and-Medway-part-two-agricultural-sector-summary.pdf.pdf](https://www.kent.gov.uk/__data/assets/pdf_file/0016/111382/CCRIA-for-Kent-and-Medway-part-two-agricultural-sector-summary.pdf.pdf)

26. <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2023#section-2--fruit>



## 6. Access to Funding

As we have seen, GKM is delivering secondary grant funding directly to where it is needed to support a diverse range of R&D projects and enabling collaboration between the regions' research institutes and commercial organisations. GKM has focused on providing industry-led grant funding that is aimed at solving challenges faced by a range of business types and size.

GKM grant funding has prioritised businesses that are either based in Kent and Medway, building expertise and innovation in the region or who are delivering the project benefit in Kent and Medway thereby attracting talent and investment to the region. This is critical given the long-held understanding that geographical proximity of linked industries and organisations are a major factor in the creation of successful clusters. We have been highly successful in reaching and engaging with businesses in Kent and Medway, as can be seen in the maps below, a majority of those engaging with us are based in the region.

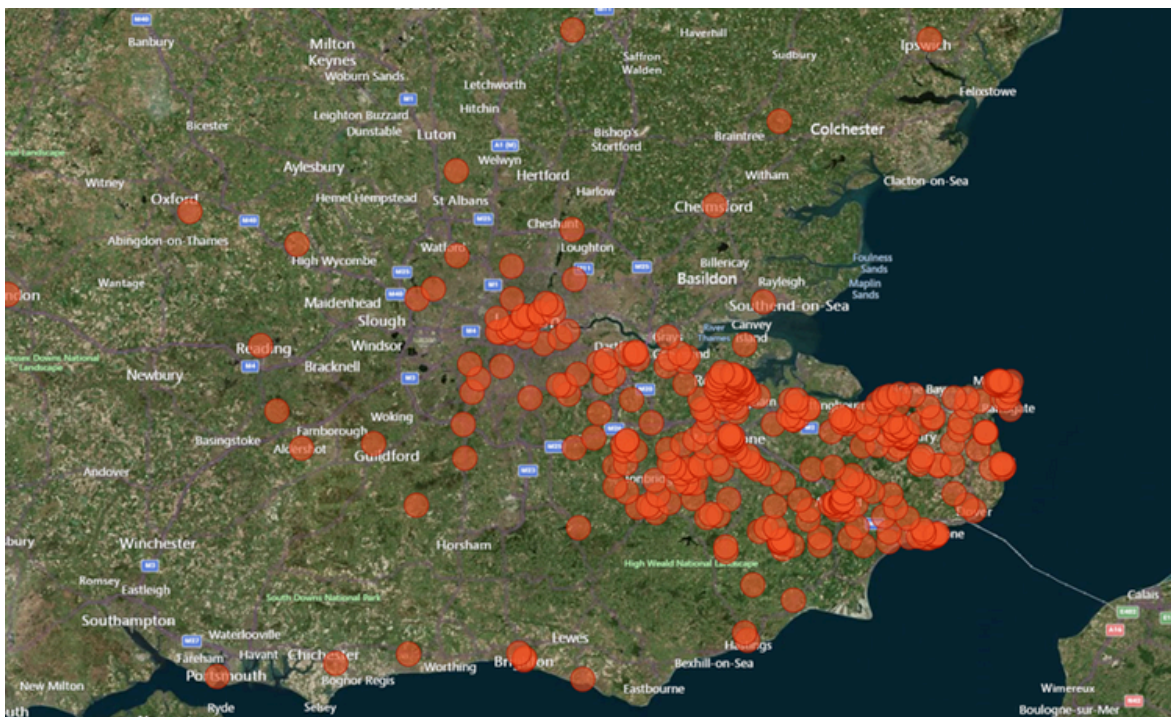


Figure 16a - location within Kent of businesses engaging with GKM



Figure 16b – location of businesses engaging with GKM in the UK

**7. Infrastructure** (e.g., physical assets, public amenities and local regulation which encourages start-ups and labs);

The infrastructure put in place at our four Hubs is playing a vital role in supporting the businesses engaging with us. The total investment in GKM physical infrastructure of more than £8.6 million has delivered critical mass in the region's ability to support cutting edge research and innovation in the sector. By having dedicated research facilities, we have been able to attract and retain world-class research expertise. This has helped the three GKM research organisations to leverage over £8 million in additional R&D grant funding since 2022.

GKM is also investing in supporting a business landscape which encourages and enables start-ups. Kent County Council's "Food & Drink Production Enterprises 2023 Statistical Bulletin" by Kent Analytics<sup>27</sup> shows that Kent has 2,200 food and drink production enterprises, which accounts for 3.4% of all enterprises in the county and that four Kent districts (Ashford, Folkestone & Hythe, Dover and Tunbridge Wells) have a higher proportion of food and drink production enterprises than the national average of 4.2%.

Though the quantity of food and drink production enterprises has fallen in all regions of the UK except London in recent years, this report also shows that the percentage reduction in the Southeast (excluding London) is less than that of the South West, Yorkshire and The Humber, East Midlands, and the East. GKM is supporting regional business resilience in the sector, and it will be interesting to see how these figures stand-up as the impact of GKM begins to be felt.

Of note is that these figures include only those businesses that registered for VAT and PAYE employers, not the very small businesses and the self-employed, not registered for VAT or PAYE with whom GKM frequently works, and which is often the scale of a business when it is first starting out.

We are beginning to gather data on the number of employees in the companies we are collaborating with. This data collection is still in its infancy, however early indications are that a high proportion of the companies engaging with us are either Sole Traders (c.41%) or are micro-businesses with 2-5 employees (c.36%) or 6-10 Employees (9%). Only a small proportion are identified as medium sized having between 11 and 20 employees (7%) or 21-249 employees (8%). This suggests that we are successfully helping to create an environment which supports start-ups and smaller enterprises in the sector with our activities.

Interestingly, within Kent County Council's "Food & Drink Production Enterprises 2023 Statistical Bulletin" some of the locations with the biggest reduction in (VAT registered and PAYE employers) food and drink production enterprises, over the five years to 2023, include Thanet (-16.7%), Swale (-14.3%) and Dover (-14.3%). Two of these areas, Thanet and Swale, are areas identified via the English Index of Multiple Deprivation as key target areas for GKM support under our inclusive growth strategy and are where we are seeing positive take-up of our programmes from self-employed and sole traders and also start-ups and businesses who are at the pre-start stage.

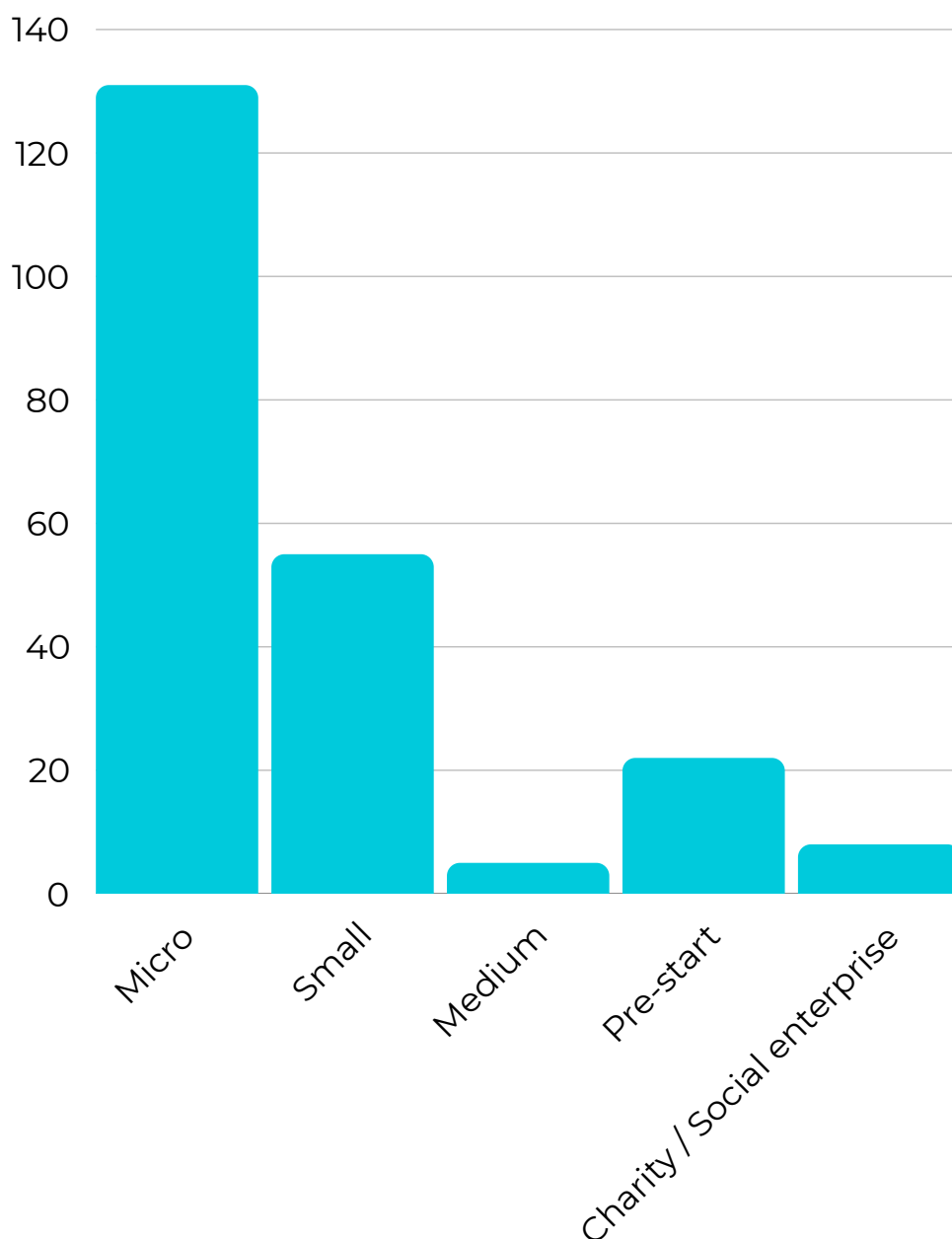
27. [https://www.kent.gov.uk/\\_data/assets/pdf\\_file/0014/90410/Food-and-drink-production-industries-in-Kent.pdf](https://www.kent.gov.uk/_data/assets/pdf_file/0014/90410/Food-and-drink-production-industries-in-Kent.pdf)

For example, there are currently just under 16% of businesses registered on our Food Accelerator based in or delivering benefit in Thanet and Swale alone, and of these, 26% told us that they were sole traders or self-employed (and so may not be picked up through widely available government datasets) while 68% stated they were at a start-up or pre-start stage of business.

Within the established small and micro businesses, we saw evidence of businesses moving into food and drink production from other activities including a food bank, a charity supporting social enterprises, a design agency and a company offering self-catering accommodation. Thus, many of these businesses, registered with Companies House under SIC codes which do not relate to food and drink production, would not be counted by official datasets on food and drink production in the region.

This is despite the fact that they may form a key part of the backbone of the local business landscape.

*Figure 17 – Company Size of programme members*



8. **Regulatory Environment** (business friendly with minimal or less cumbersome regulatory barriers)

The high proportion of start-ups and micro businesses engaging with GKM suggests that Kent and Medway provide a business-friendly environment for new and smaller businesses. Nevertheless, there are regulatory barriers that all businesses face, whether these be around protection of consumers (e.g., food safety), the environment (e.g., emissions requirements), or around changing trading regimes.

GKM is supporting businesses through a range of Masterclasses and formal training e.g., in HACCP (Hazard Analysis and Critical Control Points for food safety), Intellectual Property and sustainability as well as through mentors to help them better manage regulatory barriers and meet legal requirements.

*Titles of events held*





# Business Growth and Productivity

GKM is investing in the region to support business growth and improved productivity. The GKM secondary grant funding for R&D combined with our business support programmes and expert knowledge and facilities is enabling industry-led innovation across the region. As a result, GKM is attracting new roles, securing investment (as seen through our leveraged funding), bringing businesses to the region and driving business growth.

In the GKM Baseline report, we identified that at the time of the Wave 1 SIFP application, “levels of business focused R&D expenditure in the South East LEP were around 1.5% of local GVA (Smart Specialisation Hub, 2019)” which suggested that there was under-performance in this measure, compared other similar areas of the UK. With c.2395 food and drink production enterprises in the region and 16,000 jobs, it was recognised that there was significant room for growth in innovation activity and by extension, spill over into business growth and productivity.

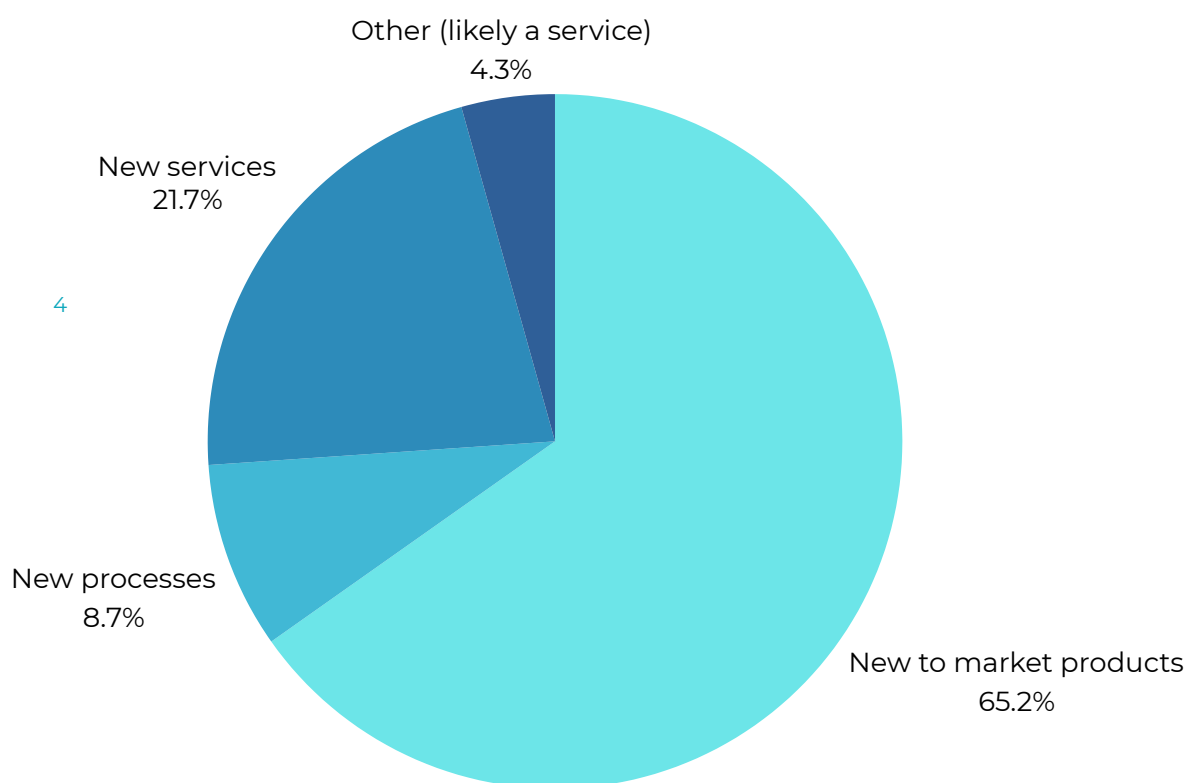
In the recent publication, “Investing in Kent for future generation”<sup>28</sup>- Locate in Kent white paper, Locate in Kent highlight research carried out by the University of Kent’s School of Economics, which suggests the Kent and Medway region can deliver an additional Gross Value Added (GVA) of £23 billion over the next 25 years, as investment is made and projects are delivered. Simon Ryan, the then Investment Director at Locate in Kent said, “Analysis by the University of Kent suggests an investment in Kent yields a 13.8 percent larger contribution in GVA than a similar magnitude investment in other English counties, outside of London. That is why today, Kent is the UK’s Southeast Gateway, where investment brings prosperity for the whole country.”

Even though there is a well-recognised time lag between investment in R&D and innovation, we are starting to see the outcomes of our support. In our Annual Business Innovation Survey 68% of respondents said they are engaged in innovation activities, of which 67% said they were engaged in R&D. Of these, 95% stated that they had full-time employees engaged in R&D activity.

GKM is supporting businesses throughout their growth and in the production of new to market products, processes and services. In addition to the new to market products already noted earlier in this report, we asked the businesses engaging with us about their new to market products, processes and services. Forty-one percent of respondents told us that their Innovation activities have led to new to market products, services or processes in the last 12 months. Of these there were 15 new to market products, 2 new processes, 5 new services and 1 “other” (likely a service).

<sup>28</sup> <https://www.locateinkent.com/investing-in-kent-for-future-generations>

Figure 18: Responses to the Annual Innovation Survey, new products, services and processes



Fifty-two percent of respondents told us that they would be introducing 'new to market' innovation in the next 12 months. Of these, businesses reported that there would be 20 new to market products, 4 new processes and 5 new services produced. Sixty percent of businesses that responded to this question agreed that their interaction with GKM had led to an increase in innovation activity, R&D or a new-to-market innovation.

While the data presented in the GKM Baseline report are not directly comparable to these results, (baseline data on Business Innovation Activity were drawn from the UK Innovation Survey, which is only open to businesses with 10 or more employees), it is interesting to note that the proportion of firms identified in the Baseline, reporting the introduction of a new or significantly improved product or service from 2016-2018 for the South East, was just 19%.

We are in the process of collecting data about employment figures and turnover in our beneficiary businesses. These will be used to estimate GVA impacts of the project.

We also asked about role creation as a part of our Annual Business Innovation Survey. Thirty-six percent of responding businesses told us that they have created Full Time Equivalent (FTE) and/or Part-time roles in the last 12 months. Over half of these businesses had FTE roles, 14 were permanent roles and 8.5 were fixed term (more than 3 months). Eighty-one percent of these businesses had created part-time roles 15 permanent roles, 11 Fixed term roles (more than 3 months). Twenty-three percent of the survey respondents felt that interaction with GKM had led to the creation of new jobs in their business.

This is set against a backdrop of difficult times for businesses coping with a challenging economic landscape. The KCC Analytics<sup>29</sup> breakdown for the region based on data from the Business Register and Employment Survey (BRES) found that employee jobs in general increased by 1.8% in Kent between 2021 and 2022 and 2.7% in Medway against a national (GB) increase of 2.2% and South East regional increase of 3.1%.

Meanwhile their closer look at the Food and Drink Production in the region<sup>30</sup> found that the number of food and drink production enterprises has fallen in all regions except London, with an 8% fall in the number of Food and Drink Enterprises in Kent over the past 5 years but a more than 5% increase in Medway, against a national and regional average of 6% decrease.

The UK Business Counts dataset for 2023 (accessed via Nomis<sup>31</sup> September 2024) shows that there was -0.44% decrease of businesses within the SIC codes identified in the GKM Baseline Report across Great Britain between 2022 and 2023 while in Kent and Medway the percentage change was -1.81% and +17.78% respectively. The businesses we are supporting through the GKM project in Medway may well be bucking the trend for the region, therefore.

In addition, since a high proportion of the businesses engaging with GKM are micro businesses, as well as start-ups, who may not pay VAT or be registered for PAYE, these 'invisible' businesses may not be captured by this dataset and therefore, may not represent the full picture of any protection afforded to those on the GKM programmes.

We anticipate wider impacts of the GKM support will be realised more generally within employment and productivity (GVA) figures in the much longer-term as businesses, networks, connections and projects mature, and new technologies and innovations are commercialised and adopted.

<sup>29</sup> [https://www.kent.gov.uk/\\_data/assets/pdf\\_file/0017/8180/Business-Register-and-Employment-Survey-BRES.pdf](https://www.kent.gov.uk/_data/assets/pdf_file/0017/8180/Business-Register-and-Employment-Survey-BRES.pdf)

<sup>30</sup> [https://www.kent.gov.uk/\\_data/assets/pdf\\_file/0014/90410/Food-and-drink-production-industries-in-Kent.pdf](https://www.kent.gov.uk/_data/assets/pdf_file/0014/90410/Food-and-drink-production-industries-in-Kent.pdf)

<sup>31</sup> <https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=142>

# Advancing Opportunity and Inclusive Growth

A key goal of GKM is to deliver inclusive growth, to ensure that all sectors of society can be part of, and gain from, an improvement in the innovation, business growth and prosperity of the region.

From the start we have acted to avoid the risk of adding to the region's inequality gap with our actions and become a force for positive change. Through widening our reach beyond simply working within the existing networks and relationships in the sector, seeking to engage and enable access for those who have been traditionally under-served or under-represented in business and innovation activity, and raising awareness about the scale and breadth of opportunities and careers within the sector, we have progressed the GKM project with inclusive growth central to our purpose.

By having inclusive growth running as a golden thread through GKM's approach and activities, we aim to make a positive contribution towards increased in opportunity, prosperity and well-being for people living and working in Kent and Medway.

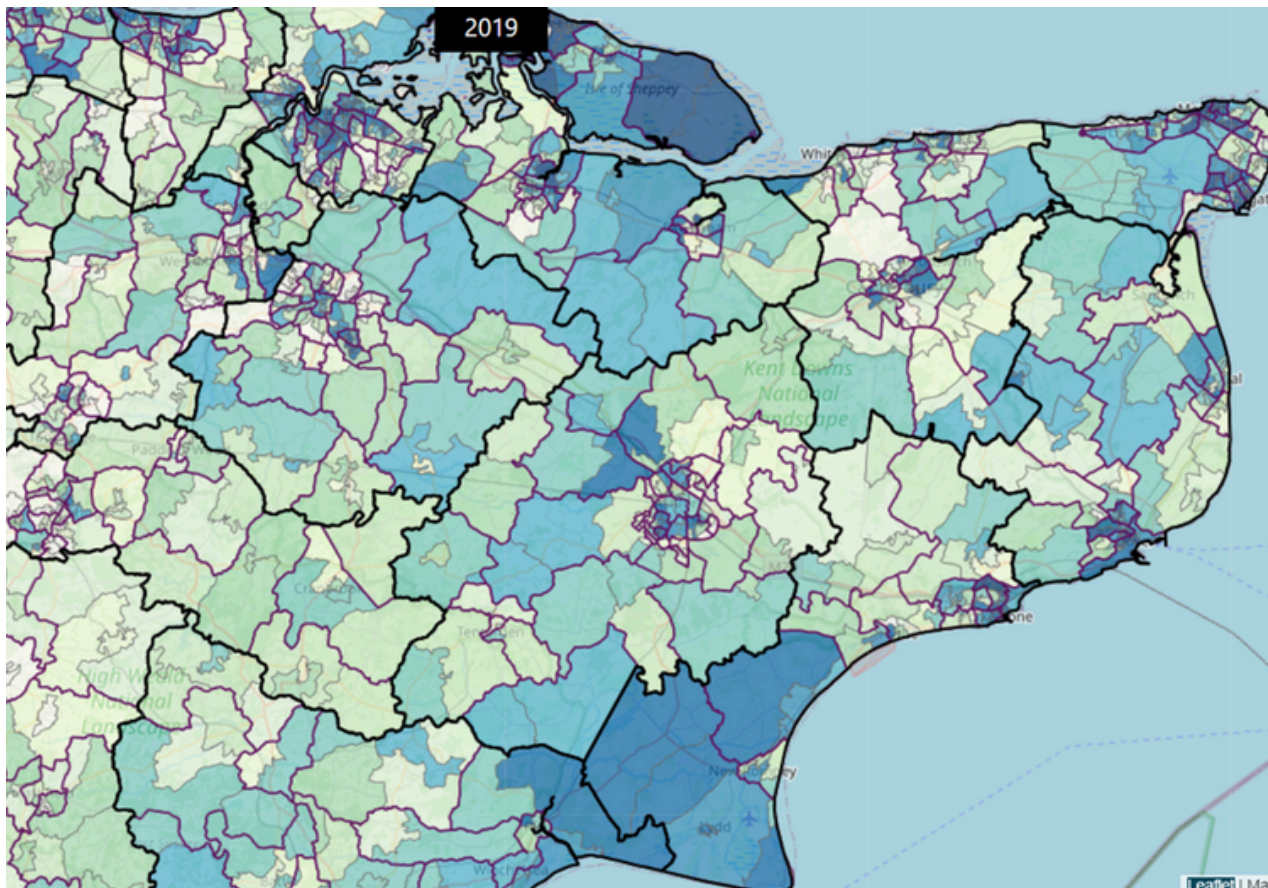
Our aim is to provide 30% of the support that we offer through our Innovation Growth Managers, the Medway Food Innovation Centre, the Mentoring Programme and the Accelerator to selected target groups and priority areas identified as under-served/under-represented. The evidence base for choosing these groups has been reported by GKM in a separate report.

These groups include young people (18-30 years), young parents (18-25) and females, who are all under-represented in enterprise and innovation activity. In addition, these groups have felt a disproportionate effect of the impacts the Covid-19 Pandemic and negative impacts on their employment and earnings. Furthermore, priority areas of Thanet, Swale, Medway, and Folkestone & Hythe, were identified, where significant prosperity gaps (as evidenced by the English Indices of Multiple Deprivation)<sup>32</sup> exist and where the economic impacts of the Covid 19 Pandemic have been particularly marked.

32. [http://dclgapps.communities.gov.uk/imd/iod\\_index.html](http://dclgapps.communities.gov.uk/imd/iod_index.html)

This map shows the deciles of deprivation for Kent and Medway, with the gradient from darkest green (representing the 10% most deprived areas in England) to lightest (representing the 10% least deprived areas in England).

*Figure 19 English Indices of Multiple Deprivation in Kent & Medway*



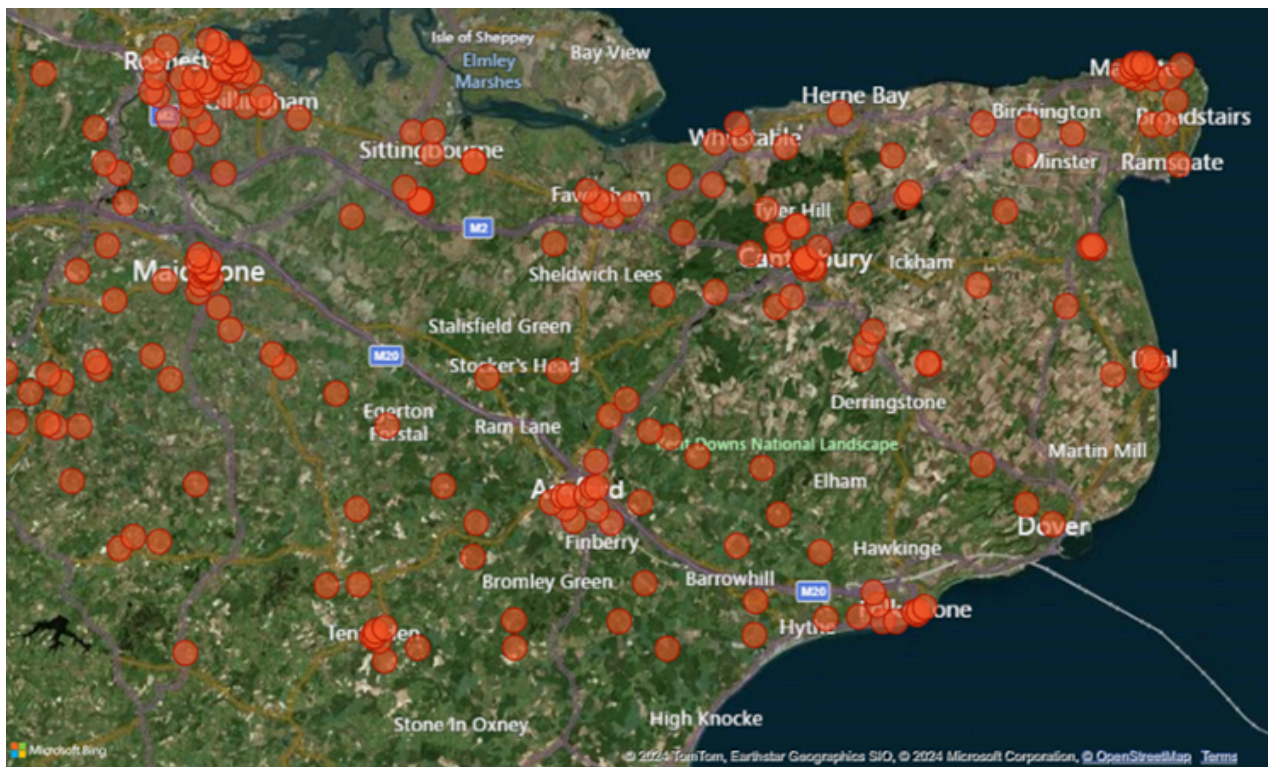
Source: The English Indices of Deprivation (IOD2019), Ministry of Housing, Communities & Local Government (2019), Retrieved from Indices of Deprivation 2015 and 2019 ([http://dclgapps.communities.gov.uk/imd/iod\\_index.html](http://dclgapps.communities.gov.uk/imd/iod_index.html))

To date GKM has enjoyed huge success in meeting our 30% target, having provided 63.2% of our support so far to under-served/under-represented groups and priority areas through the IGMs, Mentoring and Accelerator Programmes and the Medway Food Innovation Centre. (Note this figure is subject to change as different businesses sign up to GKM programmes).



The map below shows the concentrations of businesses taking part in GKM programmes, based in different districts, including groupings of businesses based in our priority areas of Thanet, Sittingbourne and Faversham (Swale), Folkestone & Hythe, and Medway.

*Figure 20 growing Kent and Medway Members by location in Kent*



## Community Engagement

Another key element of our strategy for inclusive growth is to deliver social value through community engagement delivered by beneficiaries of our GKM secondary grant funding as well the GKM project team and partners.

Our Social Value Framework enables us to obtain a commitment from grant funded businesses through the competitive funding process, to deliver one or two (or in some cases more) days of community engagement whilst allowing some flexibility in the timing and scope of those activities. GKM has committed to delivering 192 days of social value through this mechanism which can include, for example, raising awareness of opportunities or careers in horticulture, food production and underpinning technologies through participation at events such as the Teacher Encounter Day at the National Fruit Show in Autumn 2023, tours and talks, or STEM based (Science, Technology, Engineering, Mathematics) work such as Nuffield Student Placements aimed at gifted and talented year 12 students from under-privileged backgrounds.

We are very pleased that so far that our grant funded businesses have already provided 223 days (preparation and delivery) of social value and with more projects kicking off, we anticipate this figure increasing much further in the future.

## Case Study: The Living Land Event

In May 2023, GKM took part in the Living Land event at the Detling Showground. Our stand included an interactive workshop on soils and plant diseases, in collaboration with our large R&D grant funded projects looking at Biochar and Apple Canker. This event, organised by Kent County Agricultural Society, welcomed over 3,000 primary school children to learn about agriculture, horticulture, farming and food, and was attended by children from more than 50 schools from across Kent and Medway.


Through engaging with school children at the event, our team were able to raise the awareness of the range of different opportunities and careers in the sector, including in science, technology, sustainability and more, beyond a traditional view of farming.



# Engagement and Access for Young People

In early 2023, we worked with young people in Thanet to identify the issues facing them in beginning a career in horticulture and to develop a greater understanding of ways in which they might engage with GKM and access its support. Members of the team spoke to 8 young people, ages 18-24 of which 3 were young parents, 2 in part time “jobs”, not employment and 3 unemployed. We asked them questions about life, their current experiences, and what GKM should do (or not do) to enable engagement and access for young people.

When asked for their thoughts on food and drink, agriculture, horticulture, farming and growing your own food, as a place of work or starting your own business, young people responded with some interest, but also with comments such as:



*“Too much expense to make a profit!”*

*“This industry is one of the hardest to get into “*

*“Food/farming/agri- I think this could be really cool, but I’ve not had any job experience in something like this”*

*“Too much at stake if it goes wrong”*

The young people surveyed saw the “side hustle” as something that is “just normal”, however there was little recognition of or understanding of the words and phrases used in the sector and around the GKM programme, with one person questioning “Agriculture/Horticulture” with “Is that cement? Like building?”, while mentoring was seen as something that was for “old people”.

There was little knowledge of available support, whether general or industry specific, and the young people surveyed were put off by mentions of Higher Education when searching for information in the sector. Social media was seen as highly important, with a desire for information, support and tutorials to be available online 24/7, featuring the journey of “people like us.”



Although young people did not recognise the phrase “mentoring” as something relevant for them, a buddy, business friend or “someone to vouch for them” was seen as a top means of support that young people needed and wanted for accessing the sector. They wanted “someone who believes in me and knows I will try”.

Equally a safe space to try ideas out, and a small amount of financial support to get them started, were ways in which young people felt support could help them into careers in the sector as well as connections and “a database of support people in the area you are interested in so you can arrange to have a chat”.

It seems to be the case that a lack of understanding of the existing support available through the programme and what it means as well as the formality of applying to a programme were key off-putting factors for young people in accessing support. A general misunderstanding of what a mentor is “...they tell you what to do, a bit like a lecturer, you have to do it their way”, a lack of experience and a fear of commitment to a formal programme with “lesson vibes” seem to come into play here.

Through talking to young people, the team identified that the other barriers to accessing and engaging with support, feeding into this, were a lack of knowledge and confidence, both in where to find support and in fear of failure, as well as a lack of available funds to get started and a desire for instant gratification.

As a result of this engagement several recommendations have been made. GKM is taking action to better connect, engage with and enable access to its programmes and the sector for young people. These actions are user-centred by design and as such will be dynamically adjusted, added to and updated over time and with continuous assessment of their effectiveness:

1. Promotion and awareness raising for support
  - a. to be provided over social media where young people look the most. GKM now has a GKM TikTok account, which though previously unplanned, and still in its infancy, is steadily gaining traction.
2. Go to where young people are -
  - a. Our team in the mentoring programme and at our facilities are going out and engaging with schools, colleges, youth services, and other training facilities. For example, the recent visit to Folkestone Academy where they discussed plant science and horticultural careers.
3. Connect young people with relatable peers and businesses
  - a. People with lived experience in the sector as “someone to vouch for them” and explain the opportunities and career paths to them. As a first step towards this, our communications and mentoring teams are producing TikTok videos showing a day in the life of people working in different careers in the sector as well as linking this work in with the Skills Hub development with TIAH. The aim will be to connect with interested young people directly following engagement via in-person events and online videos. Any support provided as a result of this in the long-term will include highlighting multiple routes to achieving their goals, including not necessarily needing to attend college.

#### 4. Try it out/taster days.

The mentoring team aim to offer some short-term, flexible company visits, drop-in sessions or workshops where young people can find out more about the sector without fear of failure.

#### 5. Mini Accelerator

Plans are currently underway to run a mini Accelerator Programme co-developed with young people in the Autumn months of 2024. This will be delivered through a collaboration between GKM's Mentoring and Accelerator Programmes and The Perfect Place to Grow, a training kitchen based in Margate, Kent, designed to support 18-24 year olds in Thanet into sustainable employment. See our news article<sup>33</sup> for more details.

In addition, our Mentor Directory<sup>34</sup> is now online. Although this has been developed for the wider mentoring programme's needs, it is an online resource available 24/7 where young people who have already engaged with the programme can browse possible mentors, who they feel might be able to support them, and can contact the team to arrange an informal chat.

## Skills and Opportunities

Another means through which we are engaging with and advancing opportunity for young people is through placements with GKM. One example of this is our collaboration with MDS<sup>35</sup>, a leading development and training scheme specific to the food, fresh produce, horticulture and agriculture supply chain.

Over the past 18 months we have welcomed 5 skilled graduate trainees to the GKM project team, working within our communications team. We provide the trainees with on the job, sector specific learning for six months, alongside which they complete a qualification in leadership and management. This gives them the real-world experience and skills to excel in their future careers. We have also worked closely with students through our CDIO (Conceive, Design, Implement & Operate) initiatives and Nuffield student placements, delivered as a part of GKM and our grant-funded projects' contributions towards social value activities.

The CDIO initiative provides students with the opportunity to work with businesses to create technology solutions to industry challenges while allowing them to build their engineering skills and knowledge. An example of one such collaboration, between GKM, Canterbury Christ Church University and Locate in Kent, is a project with first year BA Games Design students to develop "serious games" showcasing the real-life scenarios of a career in fresh produce.

33 - <https://www.growingkentandmedway.com/news/be-your-own-boss-join-our-youth-entrepreneurship-course-in-margate/>

34. <https://www.growingkentandmedway.com/business-support/mentoring/meet-our-mentors/>

35. <https://www.mds-ltd.co.uk/>

As a part of our work tackling the skills shortage in the fresh produce centre, we challenged our young designers to create games that could educate and inspire young people aged 14-19 years to consider a career in horticulture, whilst also remaining engaging and playable. As a part of the initiative students worked closely with leading horticultural businesses, through visits and interviews to research and understand the UK fresh fruit supply chain to inform the development of their games. For more information about this project and the benefits of “serious games” see our website.<sup>36</sup>

These opportunities feed into our wider work around the GKM Skills Strategy and Skills Hub, the collaboration with TIAH<sup>37</sup> to provide content for the region-specific skills and training portal for the fresh produce sector, and the recent launch of the Thanet Earth Centre of Excellence @ Hadlow College which GKM has partnered with. We continue to reach out to support young people into careers in horticulture and plant-based food and drink with our community engagement, raising the profile of development opportunities and career pathways and ensuring they have the skills needed to excel in sector-relevant roles of the future.

## Prosperity, Opportunity & Wellbeing

In previous sections of this report, we have touched upon the improvement in opportunities, wellbeing and prosperity felt by the businesses engaging with us and how the wrap-around support provided by GKM is enabling people to grow and innovate their businesses.

Measures of prosperity, opportunity and wellbeing are difficult to establish since the concepts are both complex, overlapping and affected by a raft of interrelated factors. Prosperity can be determined by an individual's economic circumstances, social networks, and/or the business support environment around them. Opportunity can relate to opportunities businesses have been signposted to, but also to opportunities that have been taken up and the outcomes of that take-up.

The ability to access such opportunity is significantly influenced by a range of social, cultural and economic barriers. Wellbeing can relate to physical or mental health, for example a reduction in stress through gaining new skills that improve processes and free up time, or a sense of confidence or increased motivation or inspiration. There is also well-established link between wellbeing, employment and economic stability.

<sup>36</sup>. <https://www.growingkentandmedway.com/news/could-serious-gaming-entice-a-new-generation-into-a-career-in-fresh-produce/>

<sup>37</sup>. <https://tiah.org/kent-medway>

Through our Annual Business Innovation Survey, we received free text comments from businesses about increases in their innovation activities, collaborations or role creation, some key phrases from these were given under the “Clustering for Success” section. In order to analyse these free text responses, we assigned tags to each response for the different aspects or categories of impacts mentioned above.

Across all the questions, but in particular under the question around increases in innovation activity, we noted responses relating to an improvement in wellbeing. In fact, 13% of these were tagged for relating to improvements in wellbeing. These were often linked to opportunities taken up and events attended, for example, the African Inspired Food & Drink Festival, as well as an improvement in social capital, with people mentioning the networks they had developed and the sharing of ideas as particularly impactful. Some of the phrases that described the value of the wrap around nature of GKM support positively impacting on prosperity, opportunity and wellbeing are represented in the Figure 21.

*Figure 21 - Annual Business Innovation survey - increases in innovation*



# Next steps

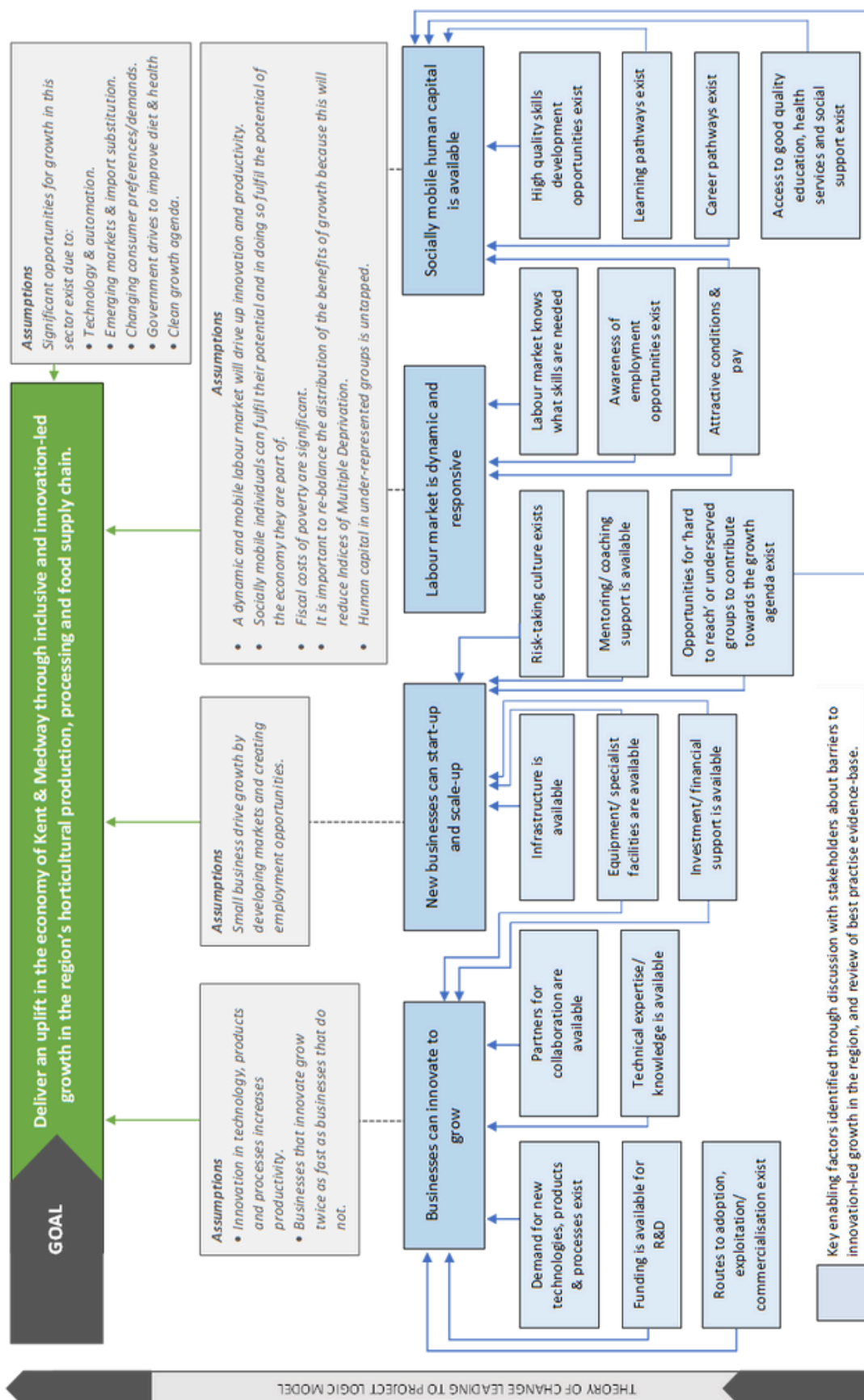
There is no other funding in the UK quite like the Strength in Places Fund. The place-based aspect of the funding has impact on multiple elements of business, innovation and on people's lives. Through this fund, GKM is laying down a foundation that will continue to support Kent and Medway as a centre for excellence in the horticulture, fresh produce and food production sectors for the future.

By securing investment in industry-led research; growing regional, national and international influence; catalysing collaborations and cross-industry engagement we are creating the right conditions to enable the sector to thrive by being more productive, resilient and sustainable. We will continue to work to secure future funding and partners, evolving our activities and approaches to fit funding priorities, sector needs and the goals of our maturing programme. We have created a role for ourselves as recognised centre of excellence particularly in our special focus area of Alternative Proteins. This has arisen through multiple elements of our work, from supporting the UK-Canada Global Business Innovation Programme, to working with UKRI to identify the UK priorities in alternative proteins R&D, to multiple awards of leveraged research and innovation funding in this area. Furthermore, the Bezos Earth Fund recently announced a new \$30 million Sustainable Protein Centre based at Imperial College. GKM Hubs are partnering with Imperial as a 'UK spoke' under this programme. . Other areas will evolve and develop too.

It is our ambition to secure a flagship sponsor for our Food Accelerator which has created a highly valued niche by supporting traditionally 'invisible' businesses in the plant-based food and drink space. We aim to incorporate mentoring into this programme. The legacy of our work to plug the skills gap in the sector for the region will live on through Hadlow College and the Thanet Earth Centre of Excellence as well as with the Skills Hub delivered through TIAH and through the impact on the lives and careers of the students and young people who took part in apprenticeship placements and other projects with GKM. We are currently working with Wavehill Limited, a consultancy in social and economic research, to undertake an independent evaluation of the GKM programme and its impacts. We will use learnings from this evaluation to focus our attention on improving delivery and ensuring our support is as effective and impactful as possible for the remainder of the programme, as well as identify key elements that should continue in some future form.

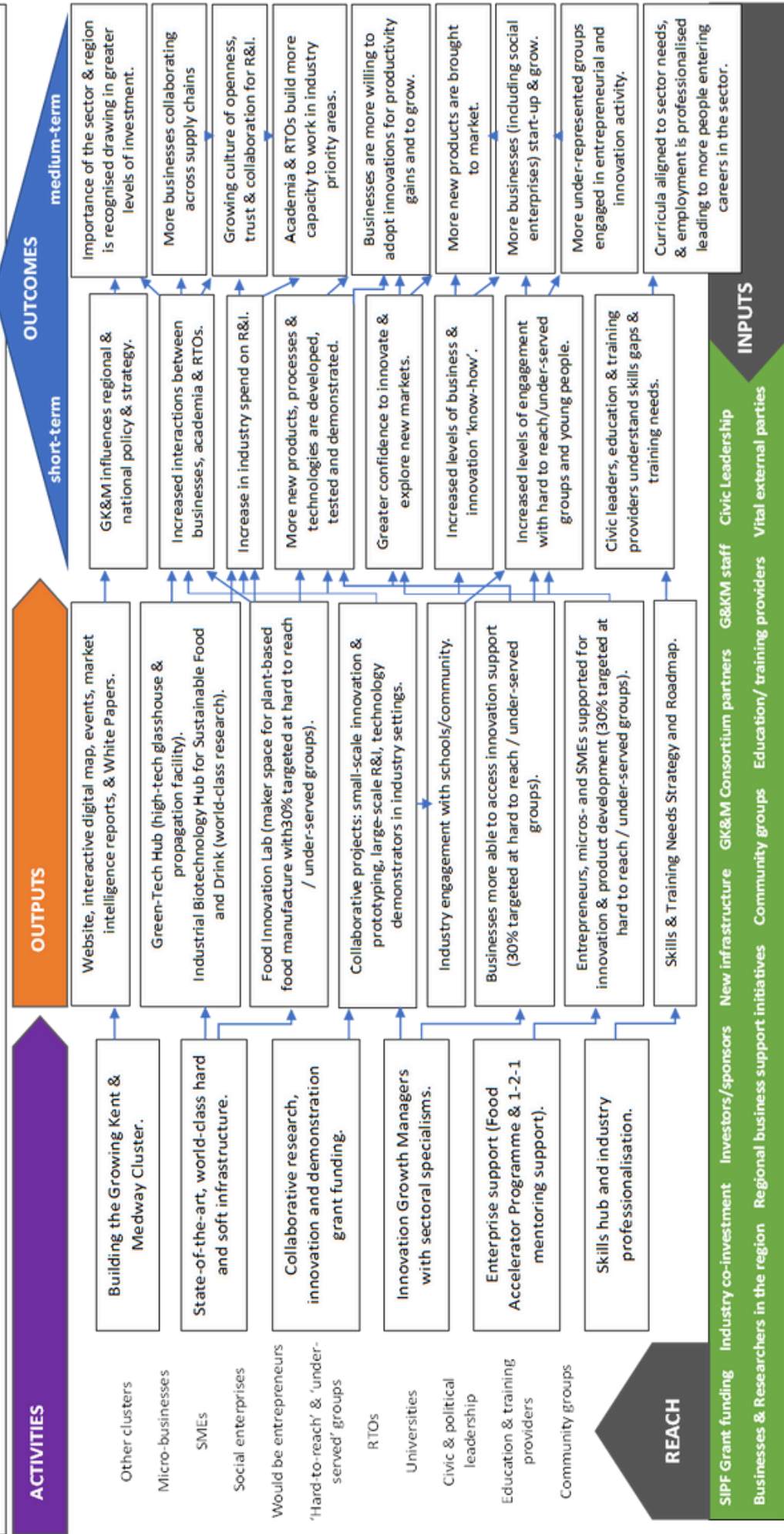
Our programme has gained momentum as it has gone on and we will continue to build on our strengths in science, technology and responsible industry innovation, our connected community of experts, business and civic leadership, and our special focus areas in alternative proteins, sustainability and skills for the future. Throughout our legacy building and future planning, we will continue to keep a focus on the golden thread of inclusive and just growth. Evidenced by GKM's successes, we believe that there is an imperative for the provision of patient, long-term funding specifically aimed at supporting place-based innovation with a sectoral focus. Such funding will enable projects such as ours to continue to develop and embed comprehensive place-based approaches that address regional challenges and priorities for the future.

# Appendix 1 - Theory of Change and Logic Model





**IMPACTS:** Growing Kent & Medway is a cluster with over 200 participating organisations and an active programme of events and activities. The region is a recognised **centre of excellence for research and innovation** (R&I) with Agri-tech and Food-tech working together with primary production and processing sectors. There is an **embedded culture of successful collaborative, industry-focussed R&I** which attracts businesses and **inward investment** to the region. As a result of **increased levels of innovation**, the sector is **more productive, more competitive** and better able to **exploit new and significant market opportunities**, contributing to an **uplift in regional growth**. The region has a **dynamic enterprise support ecosystem** which catalyses innovation, new business growth and inward investment. The sector contributes to **job creation** that supports and uplifts communities leading to **upward mobility**. The region's workforce has the **technical skills** to exploit innovation for **productivity, competitiveness and growth**. The region is well recognised for its **employment opportunities** in the horticultural production, processing and food sector and in the enabling technologies supply chain.



# GROWING



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