

High Potential Opportunity

Automation in Food Processing

An opportunity to design, manufacture and commercialise automation and robotics technologies, providing disruptive solutions across the entire food supply chain and addressing global labour, productivity and cost challenges

Greater Lincolnshire



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Automation and Robotics in Greater Lincolnshire

Greater Lincolnshire is at the heart of the UK's food chain and industrial technology revolution

Tap into this global £21.4 billion transformational opportunity. Collaborate with excellent research and innovation capabilities alongside a significant pipeline and be at the forefront of delivering automation projects in a growing agri-food cluster

IT'S YOURS TO BUILD.



1

Executive Summary

An opportunity to profit from the growing demand for robotics and automation technologies in the food supply chain.

Transform the food sector with automation and robotics in Greater Lincolnshire

Play an active role in the technological revolution of the £125bn UK agri-food industry. Benefit from a clear transformational opportunity and supply your robotics and automation solutions for this global multi-billion pound industry.

Invest in Greater Lincolnshire, a location ideally positioned to meet this demand, with **an established food and drink cluster sitting alongside a growing digitisation and automation capability.**

The region is the UK and European leader for agri-robotics and automation. This provides you with the perfect ecosystem to design, manufacture and commercialise your robotics and automation solutions for the entire food supply chain.

£125bn

estimated value of the UK agri-food sector

5X

Agri-food sector more concentrated in Greater Lincolnshire

Take advantage of a transformational opportunity and provide solutions in:

Food process automation

Robotics solutions and integration

Supply chain and transport / logistics

Industrial research, demonstration and commercialisation



1

Executive Summary

Benefit from a presence in Greater Lincolnshire, a location primed for investment in food automation.

Invest in a location at the heart of the UK's Food Valley, with a maturing automation and digitisation ecosystem

Greater Lincolnshire's growing food digitisation and automation focus is leading to a concentration of projects, startups, technology companies and advisory services unrivalled in Europe, making it an ideal location for your investment.

Collaborate with, and provide solutions for over 70 international food companies and over 4,000 agri-food SMEs.

Integrate with a rapidly growing research and innovation intensive cluster: with key facilities including the Lincoln Institute for Agri-food Technology, Lincoln AgriRobotics centre and the National Centre for Food Manufacturing.

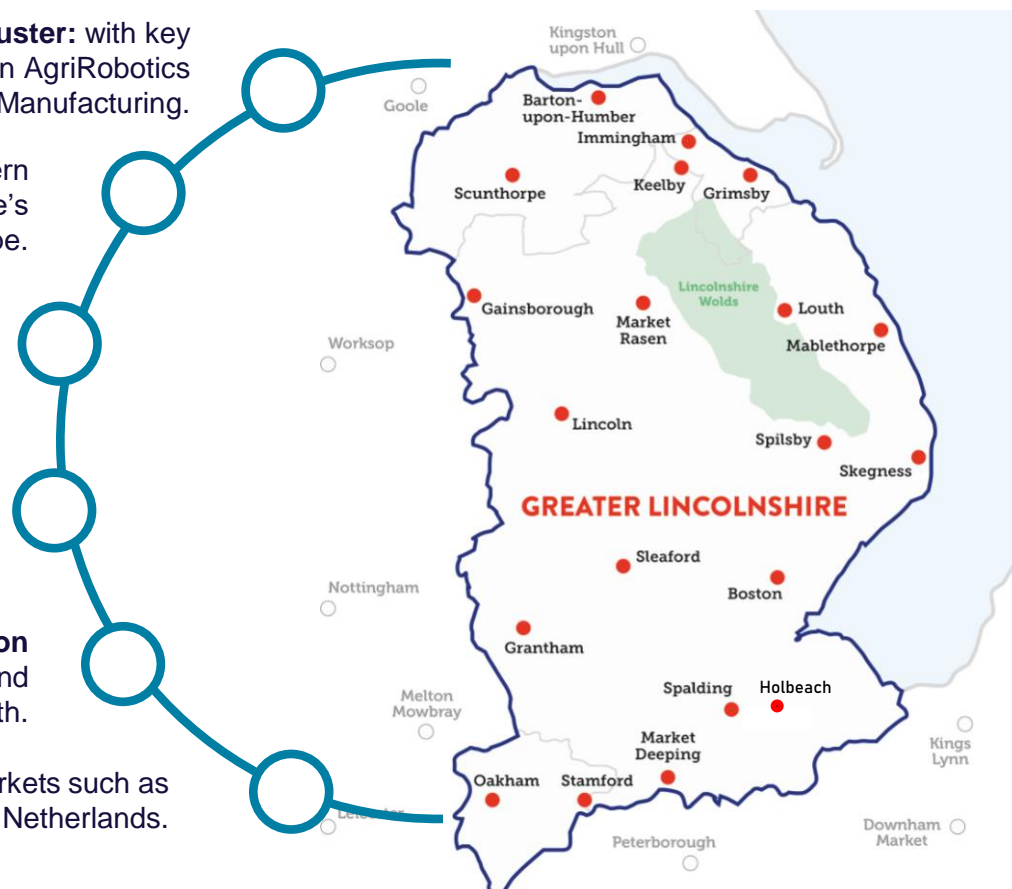
An integrated logistics offer of scale: access to one of the UK's largest ports in Northern Lincolnshire and the largest food logistics cluster in Spalding. Greater Lincolnshire's strategic location benefits from direct accessibility to and from mainland Europe.

Exploit some of the lowest cost industrial space in the UK: highly competitive when compared to other food processing clusters in Europe.

Capitalise on a wide choice of soft landing platforms: including South Lincolnshire Food Enterprise Zone which is dedicated to agri-food technology.

Gain direct access to a core of highly-skilled robotics and automation related students, professionals and capability: to meet your needs now and support your business growth.

Exploit competitive salary costs: lower than other key markets such as Denmark, France, Germany, Italy and the Netherlands.





2

The opportunity

Develop and commercialise your robotics and automation solutions in Greater Lincolnshire; the heart of the UK's food chain.

Demand

Robotics solutions and integration

Supply chain, transport and logistics

Research and Innovation

An unrivalled concentration of end-users committed to investing in “best-in-world” automation solutions

Profit from a significant pipeline of investment projects in seafood and poultry processing

Seafood Processing

- } £1.5bn seafood processing cluster and the largest in Northern Europe; continuing to invest and grow
- } 50% of the UK's seafood processing capability
- } 65 primary and secondary processing businesses
- } 6,000 people employed in over 50 processing units
- } Key processors linked to international groups including Young's Seafood (Sofina Foods), Hilton Seafoods and Morrisons Manufacturing



Demand for automation applications in sorting, cooling, freezing, salting, drying, smoking, production of minced and canned fish and technical feed products.

Poultry Processing

- } Global expertise in poultry processing
- } Supplies the UK with 21% of poultry products
- } UK's 2nd largest egg packer, Fairburns Eggs
- } Key poultry processors including Pilgrim's Pride (Moy Park) and 2 Sisters



Demand for automation on the processing line and turn-key, complete line systems that can handle processing from the arrival of live birds through to packaging and dispatch.



2

The opportunity

Develop and commercialise your robotics and automation solutions in Greater Lincolnshire; the heart of the UK's food chain.

Demand

Robotics solutions and integration

Supply chain, transport and logistics

Research and Innovation

A cluster with automation requirements across fresh and naturally healthy food production

Profit from a significant pipeline of investment projects in fresh produce and naturally healthy foods

Fresh Produce

- } Farmgate value of £1.1bn and 20% of national fruit and vegetable production
- } UK's largest fresh produce import cluster which processes, adds value and in some case re-exports
- } Staples Vegetables, Worldwide Fruit, AH Worth, FESA, and Karsten UK located in the region
- } Key expertise in vertical farming and glasshouse growing (one of UK's biggest glasshouse projects)



Demand for automation in processing, weighing, grading and packaging as well as 5G, supply chain digitalisation and cold storage and post harvest crop technology

Proteins and Naturally Healthy Foods

- } UK's largest fish, plant protein and naturally 'good for you' food cluster
- } Leading companies include Nissui, Branston Potatoes, Princes and Greenyard
- } Plant & Bean is opening Europe's largest plant-based protein production facility in the region, employing over 500 people



Demand for front of line automation, handling and picking, food processing, and end-of-line automation (including wrapping, labelling, packing and palletising).



Exploit a sector ripe for disruption, and meet the growing demand for robotics solutions

Deliver robotics consultation, design, installation and ongoing maintenance services to some of the largest food companies in the UK.

Work with the National Centre for Food Manufacturing to trial, test and develop your technology offline before it is put into a commercial setting...

- } Undertake concept development, and full commercial research and development trials
- } Access dedicated food manufacturing halls and process laboratories

...and meet the software and hardware requirements of the food industry...

- } Automatic process control and robotics
- } Sensors for automated quality and safety control
- } Machine vision systems
- } Optical sensors and online spectroscopy
- } Gripper technologies
- } Wireless sensor networks
- } Supervisory control and data acquisition systems

Demand

Robotics solutions
and integration

Supply chain,
transport and
logistics

Research and
Innovation

...across the whole factory supply chain, from unloading through to processing and dispatch

1

Front of line automation

Depalletising, loading, line charging, food packaging etc

2

Automating handling and picking

Automating pick, place or sorting tasks

3

Delicate process automation

Handling including slicing, punching, cutting and fillings

4

Processing

Mixing, blending, steam injection and infusion, frying, boiling, drying, freezing etc

5

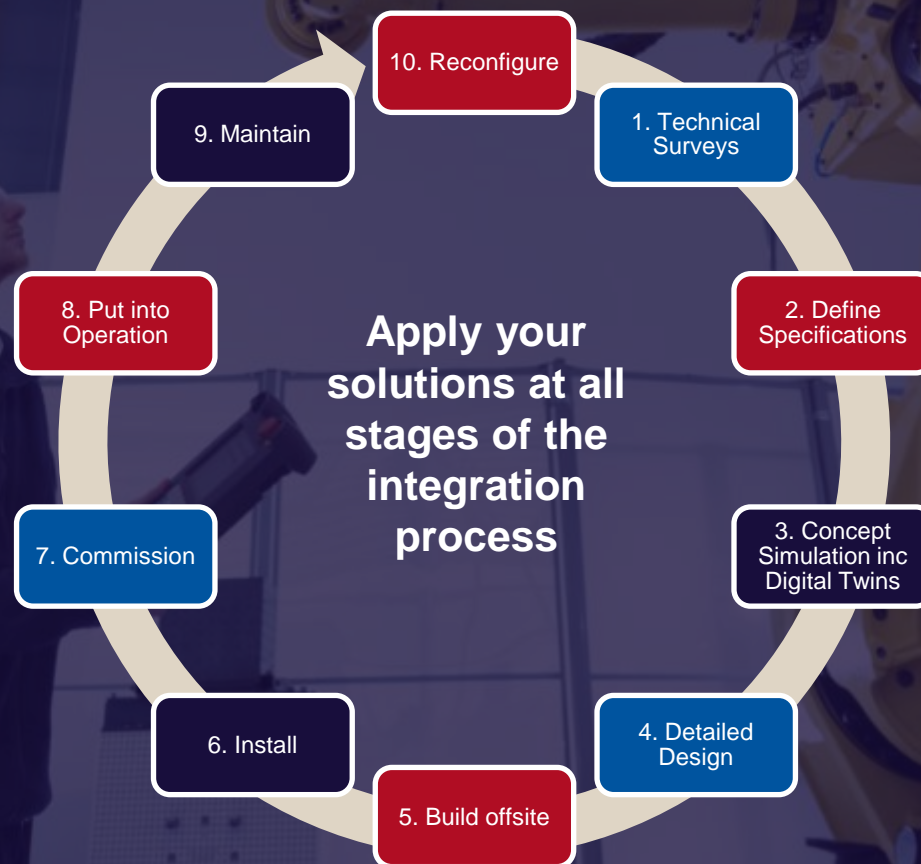
End of line automation

Wrapping, labelling, packing and palletising



Meet the demand for robotics integration

Robotic integration is critical in merging an industrial robot, peripherals, and manufacturing machinery into a production system that functions as a single unit. UK food companies welcome your robotics integration solutions.



Demand

Robotics solutions
and integration

Supply chain,
transport and
logistics

Research and
Innovation

Sources: New Food Magazine "Food manufacture 4.0 – automation and robotics at the service of food manufacturing" (June 2020)



Take advantage of the demand for technology solutions required by the food supply chain

Grasp this significant opportunity and implement your technology solutions across the entire food supply chain.

Provide solutions that disrupt the traditional transport logistics sector

- } 5G, blockchain and low carbon freight
- } Automated loading systems
- } Self-driving or remote-controlled units
- } Stacking equipment and Platooning technologies

Drive modernisation of storage and warehousing

- } Automatic guided vehicles
- } Drones
- } Multishuffle systems
- } Smart storage
- } Analytics tools

- } Swarm AGV robots
- } Optical recognition
- } Conveyor connections
- } Management systems
- } Picking robots

Supply the demand for cool chain technology

- } Automated storage and retrieval systems (AS/RS)
- } Mobile racking
- } Energy efficient cool chain solutions
- } Shelf life extension technologies
- } Collaborate with world leading researchers at the Refrigeration Research Centre in Riseholme to progress the commercialisation of your cold chain solutions

Demand

Robotics solutions and integration

Supply chain, transport and logistics

Research and Innovation

Sources: Collison & Associates Limited "GLLEP Agri-food Sector Briefing" (November 2020)
McKinsey "What is the Future of Automation? Logistics" (April 2020)
Supply Chain 247 "Cool Chain Embraces Automated Storage" (January 2018)

A clear market of scale

30%

of UK food transport starts or ends in Greater Lincolnshire

8,000 jobs

support freight transport by road in Greater Lincolnshire

45.6m tonnes

Immingham and Grimsby Ports are one of the largest by tonnage in the UK

Freeport

Humber has been chosen as one of 10 locations for the UK Freeport initiative.



Collaborate with industry and academia, and leverage world-class automation research to drive forward your product development

The region has a strong research and innovation base with significant expertise in securing funds to support technology development across the food supply chain. Key strategic industrial and academic partners are here to support the development of new or improved systems, processes and products, driving forward innovation and technology adoption to advance businesses across the whole food supply chain.

Benefit from global partnerships in innovation

Your business can benefit from an outstanding level of partnership with leading businesses and research institutions in food supply chains and their extensive global networks.

Utilise leading research in food chain digitalisation, robotics, automation and technical innovation to advance your business

A growing collaborative public and private sector research base focussed on industry focussed research and innovation of direct relevance to the food sector.

The region's research assets are outstanding and include The Lincoln Institute for Agri-food Technology and The National Centre for Food Manufacturing, both adept at partnering with industry to deliver cutting-edge innovation and support commercialisation.



Solve challenges across the food chain

Partner with key research institutes to solve challenges and unlock opportunities in the food supply chain. Access unique, commercial trial facilities including experimental food factories, product innovation and packaging facilities and full scale robotic demonstration units for both manufacturing and field robotics.



Collaborate with key industry partners supplying strategic solutions to a growing sector

Join internationally leading companies like Siemens, ABB, BOC Linde, Saga Robotics and OAL as leaders of key automation and digitalisation research programmes bringing major benefit for businesses in the supply chain and the sector.

Demand

Robotics solutions and integration

Supply chain, transport and logistics

Research and Innovation



Explore Greater Lincolnshire

A compelling case for your business

[SKILLS &
RESEARCH](#)[CLUSTER
INFORMATION](#)[SOFT LANDING
LOCAL SUPPORT](#)[GOVERNMENT
SECTOR SUPPORT](#)[CASE STUDIES](#)



3

Skills & research

Capitalise on world-class research, and gain the skills you need to succeed now and in the future.

Integrate with leading research capability and collaborative practice

Solve challenges across the food chain, 'from farm to fork' - The University of Lincoln and its wide range of industrial partners demonstrate a strong R&D capability, enabling you to develop, validate and apply your research within a commercial setting.

Lincoln Institute for Agri-food Technology (LIAT)

- } LIAT is home to Lincoln Agri-Robotics the world's first global Centre of Excellence in Agricultural Robotics.
- } A multi-disciplinary team brings together sector-leading expertise in artificial intelligence, robotics, engineering, crop science, environmental sustainability, agri-food processing and supply chains.
- } Recently funded projects include the EPSRC Internet of Food Things collaborative project to digitalize the UK food supply chain, the use of blockchain in food manufacturing, data analytics and the use of 5G technology to transform food logistics through shared intelligence with border control organisations.

www.lincoln.ac.uk/home/liat

National Centre for Food Manufacturing

- } Leading national work on food chain automation and digitisation with industry partners.
- } Gain access to world-leading multidisciplinary research in digitalisation, automation, robotics, food processing and technology for the food manufacturing sector and supply chain, tailored for your sector and processes.
- } Recently funded projects leading to commercialised end products include the award winning development of Robotic Flexible Food Manufacturing Systems and also the use of advanced vision systems and deep learning to achieve the world's first artificial intelligence-based vision system for label and date code verification.

www.lincoln.ac.uk/home/holbeach

Cross-sector research at leading institutes

- } Excellent working relationships with the UK High Value Manufacturing Catapult. This includes the Manufacturing Technology Centre; specialists in digital manufacturing, additive manufacturing, automation and robotics as well as intelligent automation.
- } Via these networks you can also access leading research and technologies from other sectors including automotive and aerospace.
- } Strong links to the digital cluster at BT's global R&D centre in Suffolk and the Institute for Manufacturing at Cambridge University.

www.the-mtc.org
www.atadastral.co.uk
www.ifm.eng.cam.ac.uk

Collaborate with industrial partners

- } **SAGA Robotics** – delivering autonomous services for the agricultural industry.
www.sagarobotics.com
- } **Olympus Automation** – supplying market leading food processing and automation solutions for the industry.
www.oalgroup.com
- } **Siemens** – developing engineering solutions including industrial automation and mobility solutions.
www.new.siemens.com/uk
- } **Barclays Eagle Lab Farm** – supports agritech startups in the sector.

www.labs.uk.barclays/locations/lincoln



The University of Lincoln and Lincolnshire Institute of Technology; collaborative leading institutions developing a pipeline of talent for your business now and in the future

Universities and colleges in Greater Lincolnshire are supporting a steady pipeline of students and graduates educated for the robotics and automation sector.



UNIVERSITY OF
LINCOLN

www.lincoln.ac.uk

- } Times Modern University of the Year 2020
- } Gold standard teaching (Teaching Excellence Framework)
- } Ranked 17th overall in the UK in The Guardian University Guide 2020
- } Blueprint for excellence in employer engagement
- } 15,875 students across all subjects
- } College of Science – 3,500 students in Agriculture and Food; Computer Sciences; Engineering; Life Sciences Maths and Physics; Chemistry and Geography
- } Extensive School and Academy partnerships providing a pipeline of young talent

Ranked amongst the best in the world in Agriculture

- } TQS World Subject (2019) recognises the University for their teaching and research relating to agriculture and forestry, placing it in the top 200 institutions in the world

LINCOLNSHIRE

I	N	S	T	I	T	U	T	E	OF
T	E	C	H	N	O	L	O	G	Y

www.lincolnutc.co.uk/institute-of-technology

- } A unique collaboration between the University of Lincoln, employers and colleges across Greater Lincolnshire to meet the higher level engineering, digital and manufacturing skills of the region's Agri-food and manufacturing sectors
- } £26 million investment in enhanced facilities for skills development courses designed with employers to develop essential skills and provide the experience needed for students to access high-level technical careers with local employers
- } 20,000 students studying across the colleges in the IoT:
 - } Boston, Grantham, Lincoln, Grimsby and North Lincolnshire Colleges, Bishop Burton College and Lincoln Colleges, the Lincoln University Technical College (Engineering College supported by Siemens) and the University of Lincoln's National Centre for Food Manufacturing



Nurturing your workforce and providing the skills you need to succeed

Greater Lincolnshire has numerous skills support packages and a highly skilled pool of workers with transferable skills, making it a prime location for your investment. Around half of new jobs created in Greater Lincolnshire in the last few years are in the food chain.

Collaborate with some of the most pioneering educational institutions in the UK to access a pipeline of appropriately skilled people.

The Lincoln Institute for Agri-food Technology and AgriFoRwArds

- › AgriFoRwArds – the first Centre for Doctoral Training (CDT) in Agri-Food Robotics. EPSRC (Engineering and Physical Sciences Research Council) in partnership with Universities of Lincoln, Cambridge and East Anglia
- › MSc Agri-food Technology - preparing students in technical management
- › Professional up-dating for farmers and industry professionals

The National Centre for Food Manufacturing

- › UK leading provider of Apprenticeships for the Food Manufacturing sector
- › Partnering in skills development with leading UK food businesses including Bakkavor, Nestlé, Heineken, Coca-Cola and Princes
- › Tailored offer for sectors to include fresh produce and seafood businesses

The Lincolnshire Institute of Technology (IoT)

- › Flagship Institute for higher-level technical, engineering and digital skills
- › Digital Food Manufacturing Technologies Centre at the NCFM
- › Bishop Burton College - Precision Agriculture Skills Centre enhancing a £30m investment in this specialist Agricultural College
- › Schools and Academy partnerships provide a pipeline of young talent

Access the National Centre for Food Manufacturing - a major national skills hub for the sector offering apprenticeships at all levels including degree apprenticeships for all key occupations.

Skills support programmes via the LEP to help you recruit, upskill your workforce and grow your businesses.

University of Lincoln graduates have a range of skills in Engineering, Computer Sciences, Life Sciences and Business Management providing a ready source of fresh talent for your business.

Collaborate with the EPSRC Centre for Doctoral Training in agri-food robotics in Riseholme.

Exploit the Lincolnshire Institute of Technology, a collaboration with Bakkavor and OAL and other partners providing you with a pipeline of skilled employees.



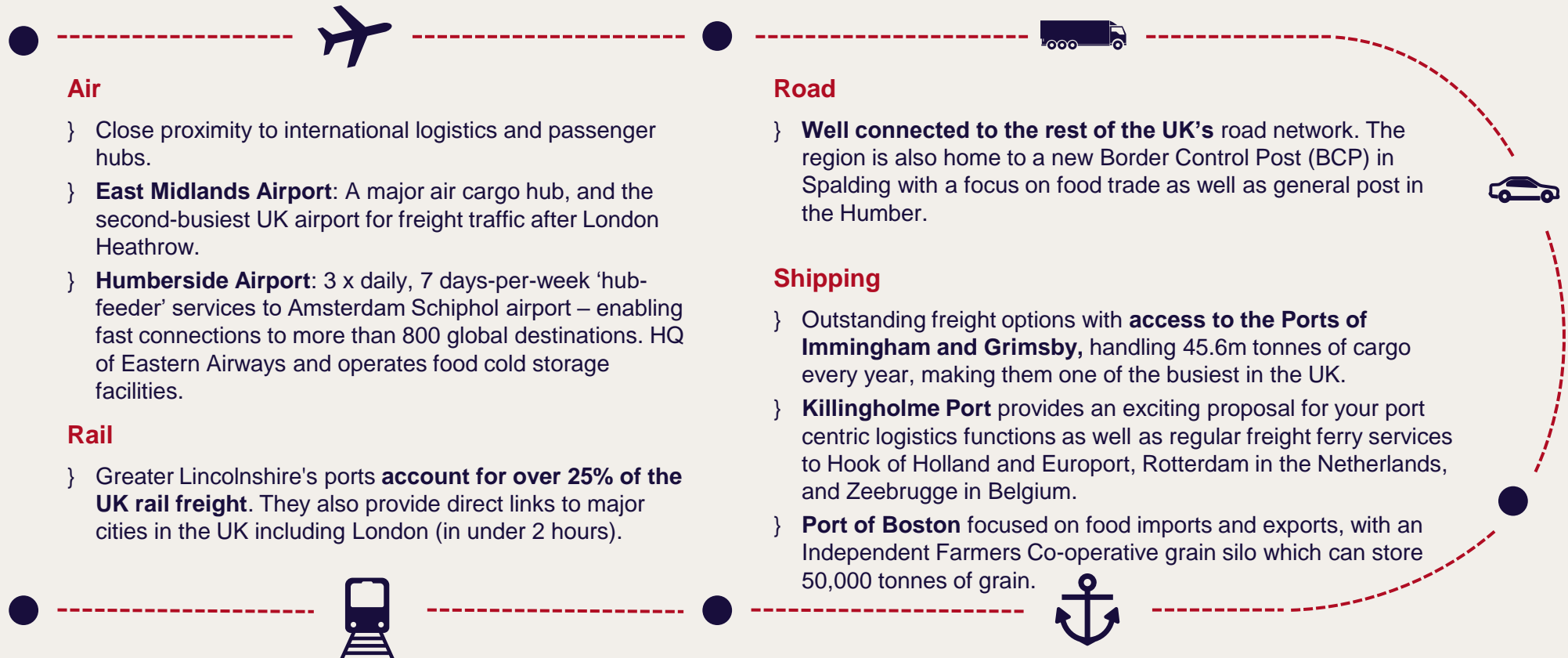
4

Cluster information

A transport network providing you with connectivity to the rest of the world.

Connected to the world

Greater Lincolnshire's central location ensures that you can serve over 75% of the UK population within a four hour drive time. Furthermore the region is in close proximity to mainland Europe, allowing direct ferry access to the Netherlands and Belgium.





Capitalise on a clear customer, partner and supply base

From farm to finished product. Greater Lincolnshire is the centre of the UK's food chain and boasts a well-established food processing cluster, with a growing digitisation and automation focus.

- } In total the food chain provides 24% of Greater Lincolnshire's jobs and 21% of its economic output (7% nationally).
- } The cluster has direct links to national and international technology suppliers as well as its vibrant food cluster to test new technologies.
- } Collaborate with key global food companies that have invested in the region including Nestlé, Plant and Bean, Morrisons, Greencore, Greenyard, Kerry, Moy Park, Worldwide Fruit, Hilton Seafoods and New England Seafood International.

70+
large / global
food
companies



4,000+
high
technology
agri-food
SMEs



75,000+
employed in
food chain



24%
of Greater
Lincolnshire's
jobs

The region's growing food digitisation and automation focus is leading to a concentration of projects, startups, technology companies and advisory services unrivalled in Europe, making it an ideal location for your investment.

Automation
and robotics
solutions
required –
from farm to
finished
product



UK Grade 1 agricultural land

Home to 25% of the UK's Grade 1 agricultural land with a growing expertise in Agri-tech – a sector ripe for technology transfer into food processing. Strong capabilities in vertical farming and glasshouse growing.



Key clusters in primary processing

- › Poultry processing
- › Vegetable production
- › Fish processing
- › Cereals and other fresh produce



Capabilities and assets in secondary processing

Secondary processed foods refined, purified, extracted or transformed from minimally processed primary food products.



Nationally significant logistics and transport

A significant logistics sector providing the supply chain needs of the agri-food sector in Greater Lincolnshire and nationally.



A strategic location to access European markets for import and export opportunities

Greater Lincolnshire's strategic location benefits from direct accessibility to and from mainland Europe.

With direct routes to and from Europe, North and South America, Africa, Australia, the Middle East and the Far East, companies looking for an export hub or an import solution will find it in Greater Lincolnshire.

Just 200 miles from the global logistics hubs of Rotterdam (Netherlands) and Zeebrugge (Belgium), Greater Lincolnshire is a popular choice for short-sea shipping solutions, cutting transport costs and delivering low carbon food chains. General quayside warehousing, covered storage facilities and open-storage areas are also available.

Humberside Airport offers air freight related to the local seafood industry, while ports in Boston and Sutton Bridge provide a specific focus on cargo such as grain.

Humber Freeport in Greater Lincolnshire

The Humber has been chosen as one of 10 locations for the proposed UK Freeport initiative. When open, this could provide numerous benefits to importers, exporters and investors including:

- } Tax reliefs and duty exemptions, including Business Rates Relief and enhanced Capital Allowances
- } An expansion of Permitted Development Rights to bring seaports in line with airports
- } Innovation, and research and development, with some funding for this made available by the UK Government
- } Goods entering a Freeport customs site may be eligible for duty deferral, duty exemption and duty inversion. Freeports could also create more streamlined declarations procedures





A nationally significant food and technology cluster that is increasing investment in the region

Major investment projects highlight the continued agri-food growth potential of Greater Lincolnshire

£80 million

Long Sutton canned foods factory expansion

Princes

500 jobs

65 acre site in Boston to create UK's largest plant protein facility

Plant and Bean

65 million

Packs of fruit being conditioned each year, following investment in Spalding facility

Worldwide Fruit

£50 million

Investment in a new Ryvita factory in Bardney

Associated British Foods

320 jobs

Expansion of seafood processing plant in Grimsby

Young's Seafood

75%

Stake acquired in Grimsby-based Flatfish Ltd. Also owners of Caistor Seafoods and Nordic Seafood UK Ltd

Nissui Group



5

Soft landing
& local
support

A cost
competitive
location and
soft landing
support
packages to
support your
investment.

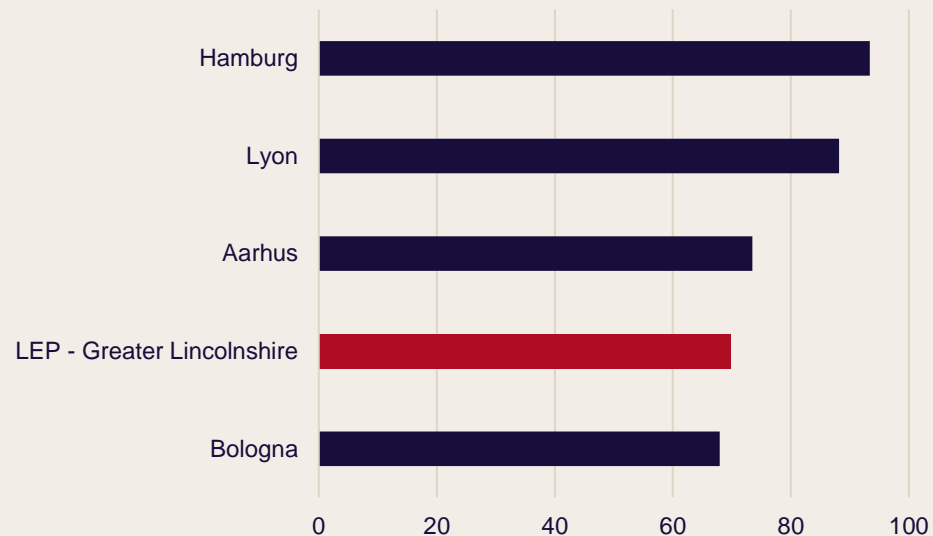
A competitive package against other leading global locations

Our industry insights identify key cost drivers for this industry. Greater Lincolnshire provide:



Low Industrial Costs

Greater Lincolnshire offers some of the most available and lowest cost industrial space in the UK and is highly competitive when compared to other food processing clusters in Europe.



GBP per square metre. Averages in £s (European cities converted from €)



Cost Effective Salaries

Salary costs in Greater Lincolnshire are competitively lower than other European food processing clusters.

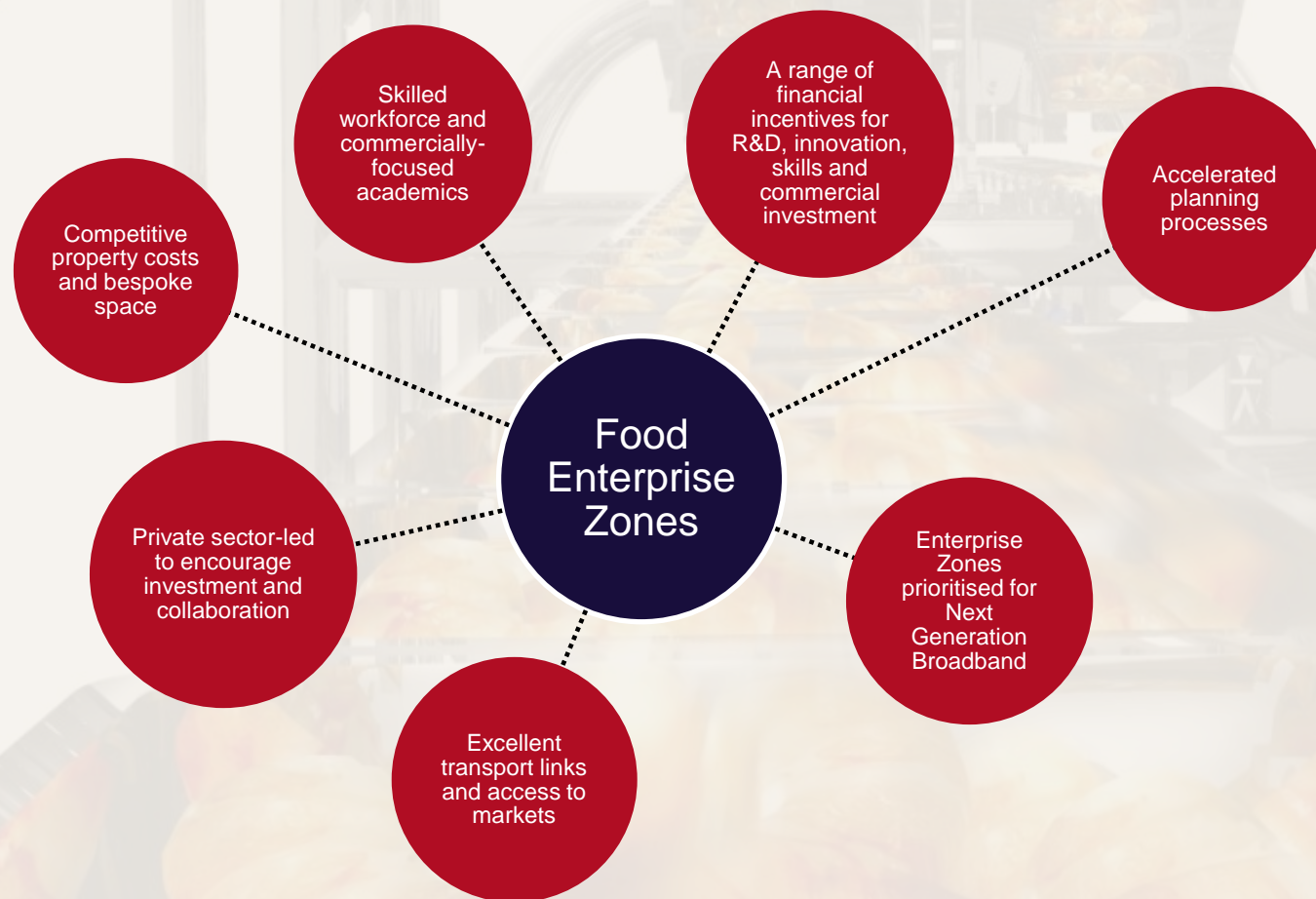
	Robotics Engineer	Electronics Engineer	Senior Technician
Greater Lincolnshire	46,047	41,393	35,053
Bologna	51,296	46,764	39,368
Lyon	58,050	54,344	47,574
Aarhus	73,263	69,212	62,133
Hamburg	84,355	79,173	71,630

Salary costs in GBP. Averages in £s (European cities converted from €)



Food Enterprise Zones in Greater Lincolnshire

Food Enterprise Zones (FEZs) will support your investment, bringing together researchers, farmers, manufacturers, distributors and retailers so you can improve productivity.



Greater Lincolnshire has 3 Food Enterprise Zones:

Europarc III (Grimsby)

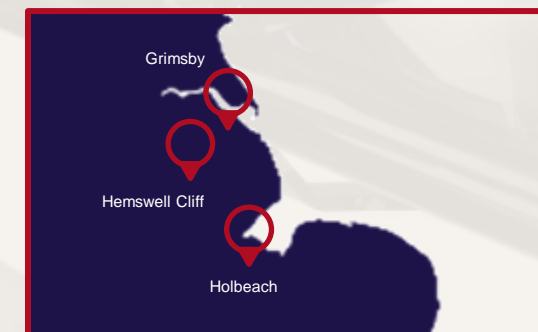
www.greaterlincolnshirelep.co.uk/funding-and-projects/projects/europarc-iii-food-enterprise-zone/

Central Lincolnshire (Hemswell Cliff)

www.west-lindsey.gov.uk/my-business/growth-and-regeneration/hemswell-cliff-local-development-order-ldo-and-food-enterprise-zone-fez

South Lincolnshire co-located with Lincoln University's National Centre for Food Manufacturing (Holbeach)

Construction of the Hub building as part of Phase 1 is about to start with plans to create high quality mixed use space for start-ups and spin-off companies
www.southlincolnshirefez.co.uk





Access a well-connected network of support

Greater Lincolnshire LEP and local partners will work with you across your entire business journey.



- } Supports businesses to start up and to grow, offering fully funded impartial advice.
- } Established as the single place to access business experts, support and guidance, and grants and finance.
- } Sector specialists available.

www.businesslincolnshire.com

Agri-food Sector Plan

- } The Agri-food Sector Plan formalises the area's commitment to doubling the GVA of the agri-food industry from 2010 to 2030.
- } It is doing this by investing in technology led growth, innovation, skills, investment and trade.



- } Offers tailored soft landing packages for new investors including relocation support, commercial property searches (introduction to land and real estate agents), local economic intelligence provision and introductions to local sector networking groups.
- } Signposting and introductions to specialist lawyers, accountants, bankers, marketing consultants, engineers, customs and trade agents.
- } Sector specialists available.

www.greaterlincolnshirelep.co.uk/about

- } A range of funding and finance options for your investment are available.

www.lincs-chamber.co.uk/funding-and-support-for-lincolnshire-businesses

UK Food Valley Approach

- } Strengthens collaborative working between: commercial food chain companies; academic and research providers; and, local, regional and national government, to promote growth and its positioning as an international food cluster.

www.businesslincolnshire.com

Greater Lincolnshire Agri-food Proposition

- } Showcases the region's agri-food offer – comparing Greater Lincolnshire with the UK and neighbouring regions, telling investors about the skilled workforce and the outstanding R&D capabilities located across the whole of the region.

www.greaterlincolnshirelep.co.uk/assets/documents/Gr_Lincs_Agrifood_Investment_Opportunity_2021_v.1.pdf



Greater Lincolnshire LEP can facilitate your connections with key sector and government networks



Greater Lincolnshire LEP

The voice of the local business community connecting you to key local and national networking opportunities.

Greater Lincolnshire Food Board

Leads on strategy and champions key projects in agri-food.

British Growers Association

Represents all parts of the fresh produce supply chain in the UK.

UK Research and Innovation

The United Kingdom's innovation agency.

Seafood Grimsby & Humber Alliance

Organisation represents the seafood and fish processing companies with close links to Seafish Industry Authority HQ'd in Grimsby.

Food and Drink Federation

The voice of the UK food industry representing all of the supply chain nationally.

Manufacturing Technology Centre

UK Catapult centre which supports future manufacturing technology in the food sector with Lincolnshire partners.

UK Fresh Produce Network

Links UK fresh produce companies with the local and national supply chain.

British Automation & Robot Association

Promotes the development of Industrial Robots and Automation in British industry.

Made Smarter

Advice and grant funding to grow business through Digital Technologies.

GAMBICA

Trade association for Instrumentation, Control, Automation and Laboratory Technology in the UK.

UK-RAS Network

Provide academic leadership in robotics and autonomous systems.

TechUK

The UK's leading technology membership organisation.



A place to thrive

Incubation and soft landing platforms with dedicated collaborative space for your business, industry and academia

- } In order to support your expansion or relocation, Greater Lincolnshire LEP will **work with you to find the ideal site**, with a smooth planning application process including pre-planning advice.
- } They will support your **introductions to universities, centres of excellence, colleges and leading professionals in the sector**, as well as recruitment support and introductions to automation and robotic specialists.
- } Furthermore, you will receive **bespoke advice on funding opportunities** and connections with the local supply chain.
- } **Greater Lincolnshire has a selection of commercial building and office accommodation options** including freehold, managed business centres, and collaborative working spaces.
- } Soft landing options are available at the Europarc III Food Enterprise Zone and the Hemswell Cliff Food Enterprise Zone.
- } The South Lincolnshire Food Enterprise Zone in Holbeach provides the opportunity to co-locate with other food technology companies and the National Centre for Food Manufacturing, supported by University led business support programmes.
- } You will benefit from **scientific and technical support** provided by experts at the National Centre for Food Manufacturing and have valuable access to small capital grants, networking opportunities and innovation facilities.



6

Government & sector support

A dynamic and flexible food processing and technology sector, underpinned by a supportive regulatory environment.

The UK is at the heart of the global food revolution

People

The UK Government and agri-food sector are committed to working together to improve the uptake of technology related skills in the food industry. This includes investments in technical, higher-level skills via the Apprenticeship programme and EPSRC Centre for Doctoral Training initiatives.

Places

Improving the UK's productivity remains a Government key objective. Greater Lincolnshire is home to the UK's major agriculture fish and food processing economy providing the backbone to their Local Industrial Strategy. Three of the UK's Food Enterprise Zones are located in the region:

- } Europarc III (Grimsby)
- } Central Lincolnshire (Hemswell Cliff)
- } South Lincolnshire (Holbeach)

Ideas

Greater Lincolnshire's Local Industrial Strategy will:

- › Develop a leading rural region for innovation for all parts of the food supply chain focusing on: skills, infrastructure and productivity gains.
- › Foster collaboration with local industry and higher education to focus on: food chain digitalisation and productivity; low carbon food chains; protein transition and naturally good for you food.
- › Maximise international trade and inward investment opportunities related to the food sector.

Industries of the Future

The UK Government is committed to putting the UK at the forefront of the industries of the future. Automation and robotics plays a key role in this transformation.

£450m

Government funding per year in agriculture, fish and food research, development and innovation programmes



Accompanied by the right support from local partners and Government to ensure a seamless investor process



Read on to see how this combines with local government to provide you with world-class support services.

Real companies. Real experience. Real value.



7

Case Studies

Join companies who have demonstrated ongoing success in Greater Lincolnshire.

“

This is very significant investment for us and is a major commitment to our UK manufacturing and providing long-term, high-quality employment opportunities in the area.

Barry McDonnell, Group Operations Director, Princes



International food group, Princes Limited, a subsidiary of Mitsubishi Corporation (Japan), employs 7,000 staff globally, including 2,500 in the UK. Long Sutton in Lincolnshire is the firm's largest UK food production site, manufacturing a range of canned products including peas, pulses, baked beans, fruit and canned ready meals. It is one of the largest employers in the area and its operations support hundreds of regional jobs in businesses and industries that provide raw materials and services.

Princes has recently invested £80m in the site, with a new pea processing plant, raw material warehouse, ingredients processing kitchen and a high-speed canning line at the facility, making it the company's biggest ever capital investment. The new canning line and warehouse will see a high level of automation with 6-axis and 2-axis robot technology while the site's existing Manufacturing Execution System will also see upgrades to software accommodating the new investments.

Barry McDonnell, Group Operations Director at Princes, said: "This is very significant investment for us and is a major commitment to our UK manufacturing and providing long-term, high-quality employment opportunities in the area. Our development programme includes state of the art automation, better energy efficiency, green energy generation and increased capability and capacity".

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Innovation is a key factor in maintaining a sustainable business environment. Focus on this area will be developed further and innovation will continue to thrive as we adapt to the transformations occurring in the marketplace.



The South African headquartered multinational Westfalia Fruit Group offers a wide range of quality fruit, predominantly avocados, through its vertically integrated supply chain. Greencell, the UK's leading avocado supplier, has been part of Westfalia since 2008 and has a strong reputation for supplying fresh fruit and vegetables to the UK market. It services customers in the retail, government, foodservice, food processing and wholesale sectors. Understanding each customer's unique requirements enables Greencell to tailor its service to satisfy these needs and exceed expectations.

As part of the Westfalia Fruit Group, Greencell is able to access the highest quality fruit throughout the year from its own orchards and like-minded grower partners. Headquartered in Kings Hill, Greencell also operates storage and distribution facilities in Kent. Production facilities in Spalding, Lincolnshire, include Greencell's 'Centre of Excellence' for avocado ripening, handling, packing and distribution, which excels in quality, service and innovation whilst maintaining the highest levels of ethics and sustainability. Its award-winning, patented UV MAP packaging, for instance, affords an extra two days of shelf-life on ready-to-eat avocado packs.

Another example of Greencell's commitment to innovation is the successful installation of automation and robotics of which has played an instrumental role in maintaining production targets. These emerging, state-of-the art automation and efficiency improvements via the use of robotics are recognised as playing a pivotal role in Greencell's ability to be 'fit for the future'.

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Our ongoing collaboration with LIAT has enabled us to accelerate the development of our commercial solutions for UV treatment, data collection and soft fruit harvesting. LIAT's expertise in agricultural sciences has helped us cover the gap between our vast experience in developing autonomous systems and the real needs of agricultural industries.

Halvard Grimstad, Mechanical Engineer, Saga Robotics



Norwegian headquartered Saga Robotics is the company responsible for the design, development and production of the world-leading agricultural robot, Thorvald. The company began its R&D collaboration with the University of Lincoln's Institute for Agri-Food Technology (LIAT) in 2017. Their two-year Innovate UK funded project "Autonomous robots to support fruit picking" marked the start of the RASberry program - Robotics and Automation Systems for berry production - where the aim was to develop autonomous fleets of robots for the horticultural industry.

It was LIAT's sector-leading expertise in a diverse range of areas - such as artificial intelligence, robotics, engineering, crop science, environmental sustainability, food manufacturing, product development and supply chains – which was key to Saga Robotics choosing Lincolnshire as its UK base.

Saga Robotics has since established its UK subsidiary at the Think Tank on the University campus and has grown the UK team to over 25 staff, with a secondary office in Maidstone, Kent. The company is now a lead partner in delivering the 'Robot Highways' project which aims to ensure industry sustainability by addressing labour shortages, the need for global food production and reducing the environmental impact of the farming sector.

The consortium secured £2.5m of Innovate UK funding to deliver a vision for the future of soft fruit farming and will create the largest known global demonstration of robotics and autonomous systems (RAS) technologies that fuse multiple application technologies across a single farming system. With an aim to be delivered by 2025 across the UK, a fleet of robots will perform a multitude of on-farm functions as one operation, powered by renewable energy.

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We have invested in a range of the latest coating and packing equipment including 4 state of the art liquid Nitrogen tunnels.

Danny Burton, Managing Director of Iceland Seafood UK



Iceland Seafood UK, part of the Iceland Seafoods International group of companies have recently invested £8m in redeveloping and equipping an existing food manufacture site in Grimsby. The site has been redeveloped to bring together two existing UK businesses in one site to provide a platform to become a leading supplier of seafood to the UK and Europe. The move to the new site has allowed for significant initial growth creating 80 new jobs.

Danny Burton, Managing Director of Iceland Seafood UK said, “We are all excited about the investment in the new site, the larger site and the installation of additional manufacturing lines creates the opportunity for continued growth of the business based on improved quality, service and competitiveness. The investment illustrates the commitment of our parent company Iceland Seafood International to the Grimsby area, with a recognition of the strength of the Grimsby workforce and the deep knowledge of fish & seafood within that group.”

Iceland Seafoods International, employs over 670 staff globally, operating 11 businesses in 8 countries including 7 value added factories and has over 3,000 customers in 45 countries.

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