MIDLANDS ENGINE

APPG Presentation
Food Chain, 22nd March 2022

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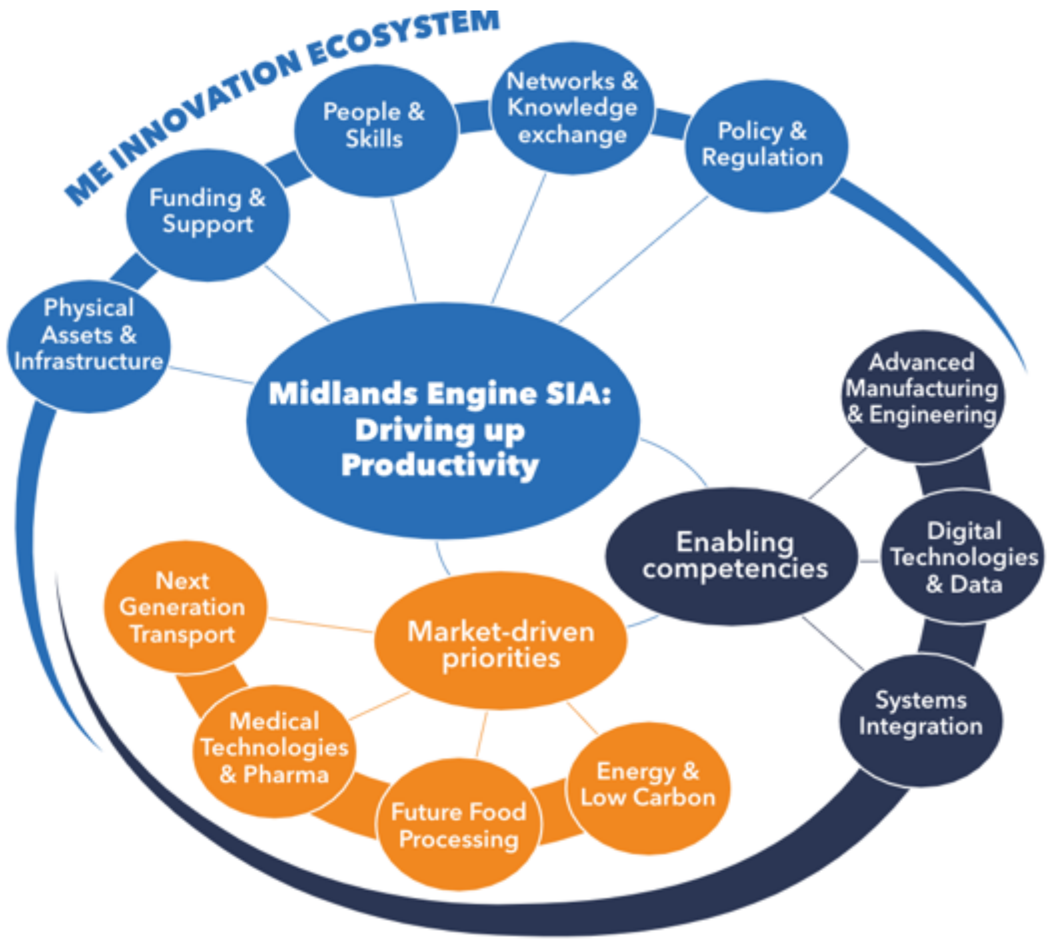
Introduction

A Midlands Future Food Alliance including industry, academia, LEPs, SmartParc and representative groups has been established in the Midlands, the UK region with the heaviest concentration of agrifood businesses, supported by academia and research capabilities

To deliver a **food sector growth programme** & **innovation ecosystem** by developing strategic initiatives impacting on:

- enhancing **jobs** through improving **productivity**
- increasing **food resilience**
- delivering **economic growth**
- delivering **Net Zero**
- &, improving **health outcomes through diet**



Changing Context

- The combined impact of Covid and Brexit had already led to an increased focus on UK food production and sourcing, with less reliance on imports
- War in Ukraine has changed the commercial (and political) context more than at any time since 1989 – assumption trade can ensure a resilient food supply is questioned by business
- The food chain is particularly exposed because:
  - The industry is a major energy user (circa 11% UK consumption) - food processors and logistics (including cool chain) major users of gas, diesel & electricity, gas fired greenhouses have been mothballed
  - Commercial electricity prices have risen from circa 14p/unit to over 42p/unit
  - White road diesel now over £1.70p/l, red diesel has risen from £0.60/l to £1.37/l (16th March)
  - Growing crisis for users of animal feed e.g. pigs & poultry, faced with uneconomic feed prices
  - Fertiliser prices have spiked to close to £1,000/tonne from under £250/tonne a year ago

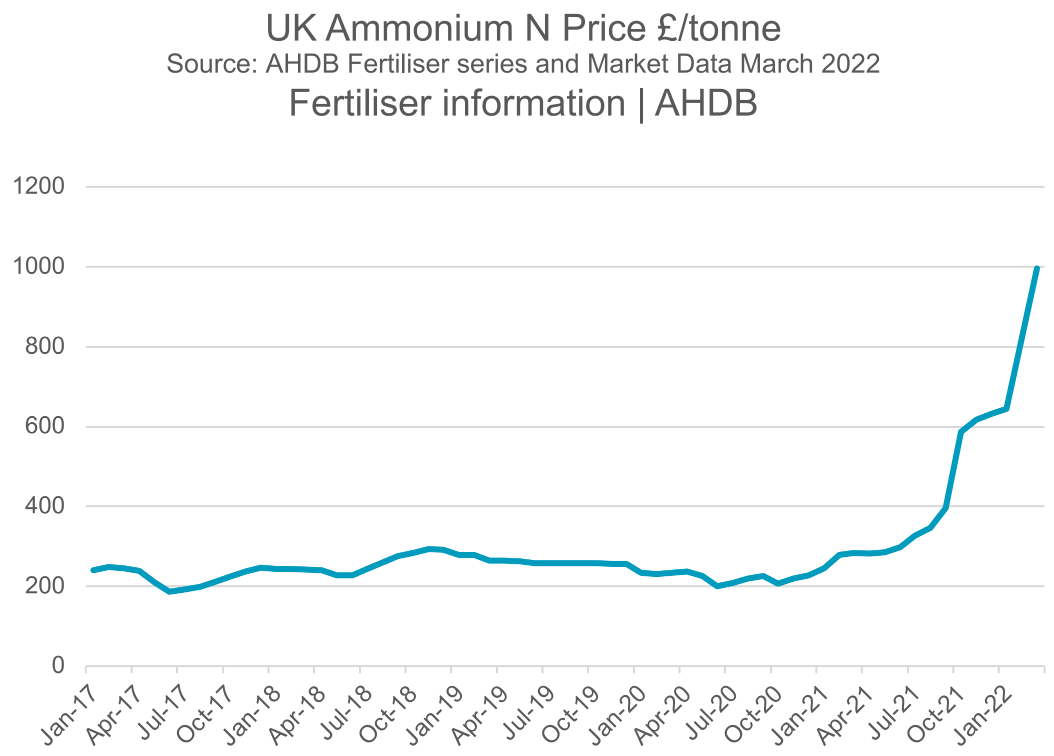
Economic & Social Impacts & Policy Implications of the War in Ukraine
OECD report, 17th March 2022

OECD – commodity prices rising very fast (to 15th March):

- Wheat +85%
- Corn +50%
- Gas +35%
- Oil +20%

All of these are important inputs & ingredients in overall food production & manufacture

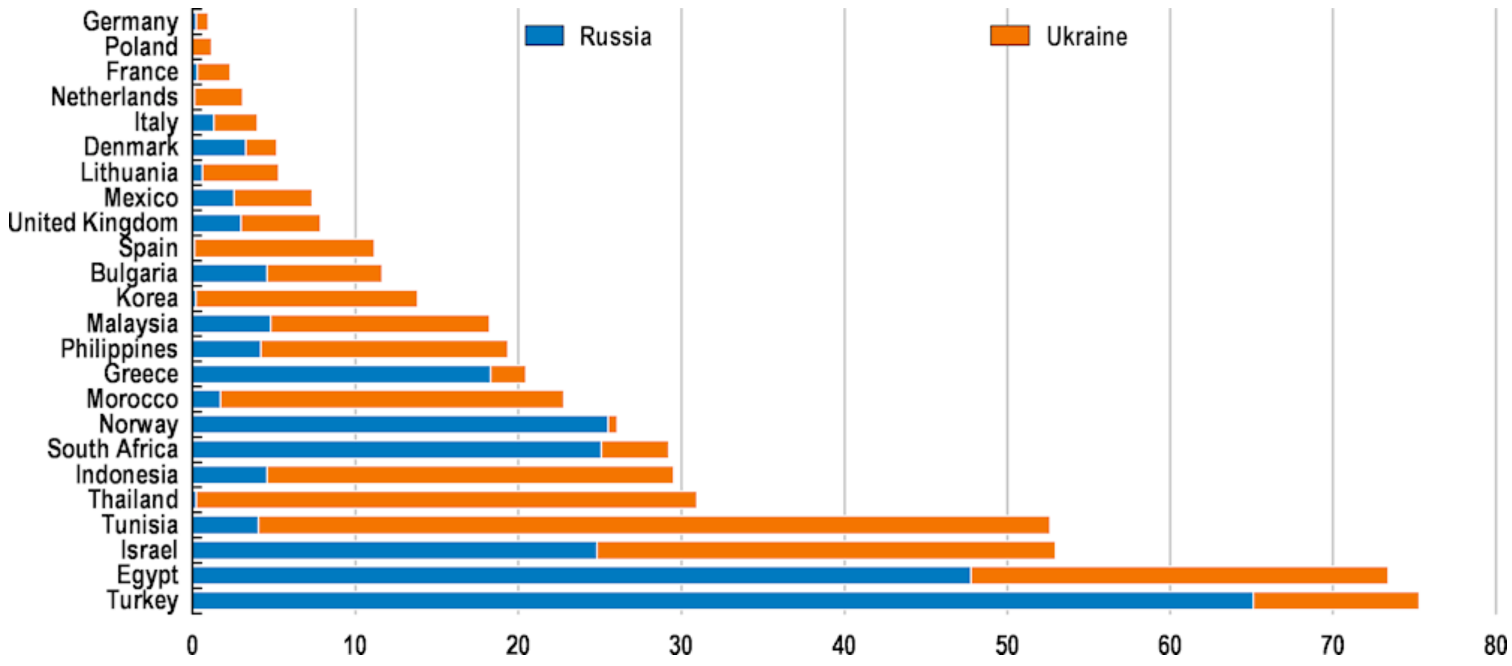
The food chain will have to pass on these costs because margins are not high enough to absorb the rises



Economic & Social Impacts & Policy Implications of the War in Ukraine

OECD report, 17th March 2022

Figure 4. **Wheat imports from Russia and Ukraine are very important in some countries -** Share of wheat imports from Russia and Ukraine in total wheat imports in 2019, in percent



OECD conclusion - 3 key takeaways:

- Support needed for refugees
- Weaker economic growth, higher inflation
- **Energy & food price rises hitting the poor the hardest**

Graph - in Tunisia, Israel, Egypt & Turkey over 50% of wheat imports were from Russia and Ukraine in 2019

Ukraine and Russia responsible for 28% global wheat exports

Risk of social unrest in many countries due to rises in food prices (as seen in the 'Arab Spring' in 2011)

Changing Context

Cost of living: Food boss says prices could rise by up to 15%

5 days ago | Comments

Russia-Ukraine war

A leading food industry boss has warned that prices will spike as a result of the war in Ukraine.

Ronald Kers, the boss of food firm 2 Sisters, told the BBC that the cost of food could rise by up to 15% this year.

- 30% UK fish comes from Russia (direct or via China, Norway)
- Russia and Ukraine = 28% global wheat exports & Ukraine = 40% global sunflower oil exports
- Russia is the World's largest fertiliser supplier – 17million tonnes per annum of potash alone

BBC Business (left) 15th March **reported 2 Sisters boss as saying UK food inflation could hit +15% this year**

The assumption we can just import would increase global prices and impact disproportionately on poor countries

All of these pressures mean increased **innovation and investment are needed to sustain and secure our food supply**

Requiring Business, Technical and Systems Innovation.

Who are we

Food Sector : Jobs : Productivity : Resilience : Economic Growth : Net Zero

Objectives & Outtakes

- To harness the unique food activities in the Midlands, gaining strength from local initiatives to affirm a world-leading innovation cluster

- Deliver sector growth through investment in infrastructure and by enabling industry investment

- Secure ‘place funding’ to unleash business potential, support collaboration between universities and industry, enhance the rate of technology adoption and create talent opportunities

- Produce an innovation ecosystem that transforms the innovation potential of the food sector, providing value to the economy, society, environment and health of the nation

- Delivering **jobs**, **productivity, resilience, economic growth** and **low carbon technologies**

- Aligned to…………

UK Innovation Strategy
Leading the future by creating it
Department for Business, Energy & Industrial Strategy

Our Ask from the APPG

We want to work with the Midlands Engine APPG to:

- Make the case for investment in food chain growth, focused on:
  - future proofed transport infrastructure
  - low carbon energy
  - commercial food sector space spanning Multinationals to SMEs
  - an innovation ecosystem
  - and, a highly skilled labour force
- Make the case to government to develop an industry led food chain centre of excellence in the Midlands

Midlands Region

STRENGTHS

97% of Food Manufacturing Business in ME region are SMEs

Accounts for 27.5% Food & 13.2% of the Drink produced in England

26% (91k) of the employees in English F&D manufacturing work in the ME region

17% (1,630) of UK Food & Drink manufacturing Businesses are in ME region

DEVELOPMENTS

Regional Developments

A number of new and existing developments focusing on food

Breadth & Number of Businesses

We have unequalled number of businesses across practically all industry types in the region

Sector Connectivity

Active LEPs in the region with a desire to integrate & work together more through cooperation

Academic Institutions

ME region has clear academic strengths in research excellence and application

4 Examples of Successful Regional Initiatives

- GLLEP
- Food & Drink Forum
- SmartParc
- Academia

Position the cluster as a **global top 10 food cluster**

Co-ordinated support to help business:
invest, thrive & grow

Greater Lincolnshire Food Chain Depth & Breadth

The Greater Lincolnshire Food Chain has scale, depth & breadth, specialisms:

- **Fresh produce**
- **Plant proteins**
- **Seafood**
- **Poultry & meat processing**
- **Logistics**
- **AgriFood Technology & much more**

Growing sector with investment running at over £500m per annum & rising

Greater Lincolnshire Food Chain

Agriculture, Food Processing, Wholesale, Logistics & Input Suppliers =

75,000 jobs
GVA of £3.7bn
GVA = £49,000/job

Investment last 5 years:
> £2billion
> 7,000 new jobs

Big Bets

Very clear cannot do everything - the 'bet' made on automation in 2016 led to Europe's largest agri-food robotics centre, multiple industry projects & cluster

Greater Lincolnshire Food Board agreed three 'big bets':

- **Food Chain Automation & Digitalisation** – lean supply chains & productivity
- **Low Carbon food chains** – leadership on the route to Net Zero by 2030
- **Naturally Good for You Foods & Protein Transition** – health & market growth

Since 2016 major programme of innovation investment:

- 3 Food Enterprise Zones
- Centre of Excellence March 2021
- Institute of Technology 2021 & new Agriculture College
- 'FEZ Hub Building' spring 2022 to host SMEs
- Centre Food & Fresh Produce Logistics 2022
- World's 1st Centre Doctoral Training in AgriRobotics & Lincoln Agri-Robotics established
- Over 100 industry linked R&D projects, over £60m
- Tesco 'dark store' refrigeration/retail research
- World's first robotic fruit farm 2020
- First Barclays Eagle Lab Farm 2020
- UK's first 5G testbed for agriculture 2021

Food & Drink Forum

- Not-for-profit industry trade body for food and drink manufacturing
- 600 Board Members of which 330 are based in the Midlands Engine area.
- Technical Bites (newsletter) Communicates to 2,300 businesses
- **3 Food Parks, 2 in the East Midlands** (Nottingham and Leicester) 1 South West. Offering **30** purpose built food grade business units and kitchen development space.
- Since 2005, we have supported more that **1,500 businesses** creating more than **2,000 jobs** and **£100m GVA**.
- Supported businesses through webinars during the pandemic supporting to over 800 individuals.
- Led on the Food and Drink iNet programme in partnership with UoNottingham, NTU and UoLincoln providing innovation support to businesses via its FEAST programme.
- We are **connected** to the Food from England, including The Mallows Company / Made in Northamptonshire.


Spondon Derby

SEGRO

SmartParc
The future of food production

Smart Parc
The future of food production

A collection of world class, cutting edge food production facilities based around a campus-style Parc.

CO_2 Sustainability goals linked **Net Zero 2030**

Positive social impact

Centre for Excellence in food manufacturing

Provides **5,000 jobs** to the community

Benefits

20% reduction in costs

30% increase in productivity

Specification vs **Cost** can't be matched outside SmartParc

Flexibility scale and options

Flexibility of lease terms

Ideal Location for new routes to market & distribution

Pillars of Delivery

SUSTAINIBILTY "Net Zero"

ENGINEERING EXCELLENCE

SOCIAL IMPACT

Route to Consumer

A **clever** partnership

SMARTPARC
SEGRO
SPONDON

Developed with SEGRO, it represents £300m investment in a new asset class for the food sector.

Smart efficiencies

Smart delivery

Smart savings

Smart sustainability

Smart thinking

Previous Academic Networks – Government Investment (2013-2018)

EPSRC CENTRE FOR INNOVATIVE MANUFACTURING IN Food

CSEF Centre for Sustainable Energy use in Food chains

Cranfield University

Sheffield Hallam University | National Centre of Excellence for Food Engineering

Combined Investment & Deliverables

- +100 Researchers
- ~£38m Investment & Additional Funding
- +400 Publication, 13 Patents

Infrastructure

AGRIEPICENTRE Engineering • Precision • Innovation

FoodBio SystemsDTP

CHAP CROP HEALTH & PROTECTION

Growth

UoN FFB: Working across the food system

Food Sector : Jobs : Productivity : Resilience : Economic Growth : Net Zero

Sector Contribution to Growth & Development

Build Back Better

- Import substitutions
- Export growth
- Resilient food chain

Net Zero

- Leveraging cluster of centres & capabilities across the Midlands
- Energy efficiency and transition now key to success

Levelling Up

- Through employment opportunities
- Increased productivity
- Inward investment

The Future & What Can We Do?

Unique regional opportunity to develop strategic initiatives for the Midlands food sector

AT PRESENT

- Regional **Strengths** & **Connectivity**
- Funding that has delivered **Growth** and **Success**
- Up and coming regional **Developments** & **Investment**

ECONOMIC GROWTH

POTENTIAL

- Extend Successful GLLEP Model
- Strategically Applied to the Midlands
- Support 300,000 jobs farm to factory
- GVA £14.8bn (x4 GLLEP)

THE ASK

Amplify our 'one voice' to influence government and wider policy in pursuit of Midlands Engine priorities multiplying our future food and drink value across the food system

THE OUTCOME

Produce an innovation ecosystem to transform the resilience & innovation potential of the food sector, providing increased value to the economy, society, environment & health of the nation

Questions

Appendix

The Future & What Can We Do?

Unique regional opportunity to develop strategic initiatives for the Midlands food sector

THE ASK

Amplify our 'one voice' to influence government and wider policy in pursuit of Midlands Engine priorities multiplying our future food and drink value across the food system

TO DELIVER

Market Driven Priorities covering areas of ‘food processing efficiency’, ‘delivering a zero waste food chain’; and ‘food product innovation’ in the food and drink sector

MIDLANDS ENGINE

MIDLANDS ENGINE MANUFACTURING OPPORTUNITIES

WHAT COULD BE MADE IN THE MIDLANDS IN FUTURE?

NOVEMBER 2021

Future Food and Drink

OPPORTUNITIES

- ***Automated production*** using autonomous vehicles, drones and automated production lines could reduce waste and improve efficiency
- Utilising ***sensors and satellites*** to track soil moisture, rainfall and soil health
- ***Food packaging will become more sustainable*** through the use of new materials or because it is able to be recyclable
- Sensors will be included in food packaging to tell consumers the ***safety of a food*** with greater accuracy than best before dates, ***reducing food waste***
- The region has a ***£22.9 billion share of the food exports market*** but this can grow as ***only one in five*** producers export
- Higher demand of ***'free-from'*** products to reflect dietary needs and choices e.g. gluten free, meat free
- Food and packaging ***waste will be reduced*** though creating new products from waste, such as textiles or biomass

POTENTIAL 2030 IMPACT

THE IMPACT OF FOOD AND DRINK OPPORTUNITIES COULD BE WORTH AN ESTIMATED...

+32,000 JOBS

+£2.1 BILLION GVA

...TO THE MIDLANDS BY 2030

- This reflects growth in food & drink and agri-tech technologies
- Improving on the ***53.2% CO2 emissions reduction*** from 1990 to 2018
- Improving yields and better managing the 70% of the UK's land area covered by farming
- Reducing food and packaging waste - ***improving on the 30% reduction in food waste per capita since 2011***

Timeline of identity: Midlands establishing itself

2013

EPSRC Centre for Innovative Manufacturing (CIM) (2013) **£5.6m** + **£1.1m** Institutional Investment (UoN, LU, UoB) leveraging **£7.5m** 'halo' funding

SIA (2016) Midlands as a powerhouse of Food Processing

Food Innovation Centre (UoN) **+£3.2m** through ERDF

UoN Future Food Beacon launched (**£14m**)

2016

EPSRC Internet of Food Things Network+ (2019)

£6m Centre Doctoral Training in AgriRobotics (Lincoln, UEA, Cambridge) (2019)

Lincoln AgriRobotics **£6m** (2019-)

2019-21 UEZ Fund programme **(£3.6m**)

2017-21 Greater Lincs AgriFood Innovation Partnership **(£3.9m**)

2021

£15m Lincolnshire Institute of Technology (2021)

South Lincolnshire Food Enterprise Zone & **£10m** Centre of Excellence (2021)

£3m Centre for Food & Fresh Produce Logistics 2022

£0.4m UK Food Valley Seafood cluster programme (2021-22)

The Future

Potential for much more regional impact as the food chain adapts to Brexit, Covid, low C, health & digital transitions

Collaborative projects backed by clear strategy for industry and knowledge growth works

Logistics

ROAD

- **28%** UK road freight related to agrifood
- Spalding alone dispatches 1,200 lorry loads of food per day
- Trusted Bytes leading work on digital supply chains
- Low Carbon transition underway

PORTS

- Freeport on the Humber and UK's largest bulk port
- Boston Port developing role in food trade
- East Midlands airfreight and Freeport
- BCPs in Spalding & Humber

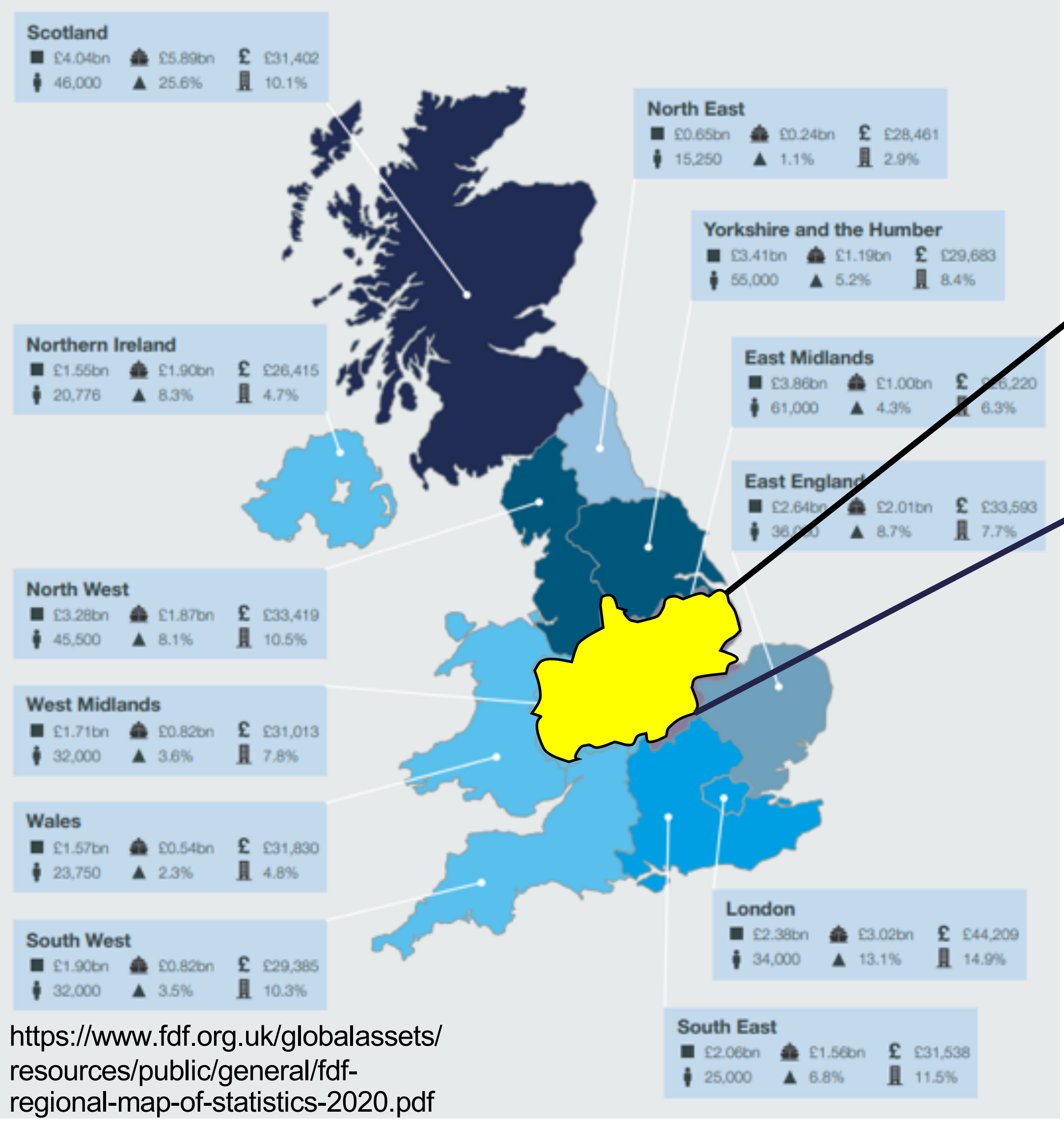
RAIL

- Rail freight potential in the food chain is not yet realised
- Major benefits in route to Net Zero & reduced congestion
- Needs to link to ports

DISTRIBUTION CENTRES

- Major food logistics clusters across Midlands with concentration of RDCs and NDCs
- Major cold storage clusters in Grimsby, A1 corridor and Spalding, with new stores moving to low C
- Transition to online sales will drive further growth in warehouse demand & localised manufacturing

Food & Drink – Manufacturing Across the UK



https://www.fdf.org.uk/globalassets/resources/public/general/fdf-regional-map-of-statistics-2020.pdf

Midlands Region

Highest Gross Value Add of £5.57bn in England

Key **GVA (2018) Heat Map**

- Below £1.5bn
- £1.5 - 1.9bn
- £2 - 2.4bn
- £2.5 - 2.9bn
- £3.0 - 3.4bn
- £3.5 - 4.0bn
- Above £4bn

- Gross Value Added (GVA)[1]
- Employees[2]
- Exports[3]
- Share of UK Food & Drink Exports[4]
- Average wages[5]
- Share of UK Food & Drink Manufacturing Businesses[6]

Creation of the Midlands Future Food Alliance (2016-present)

Future Food Processing Accelerator to deliver step changes in the **productivity** and **growth** of the Midlands **food processing** sector, whilst creating innovative foods which support the delivery of improved **human health** through more nutritious diets

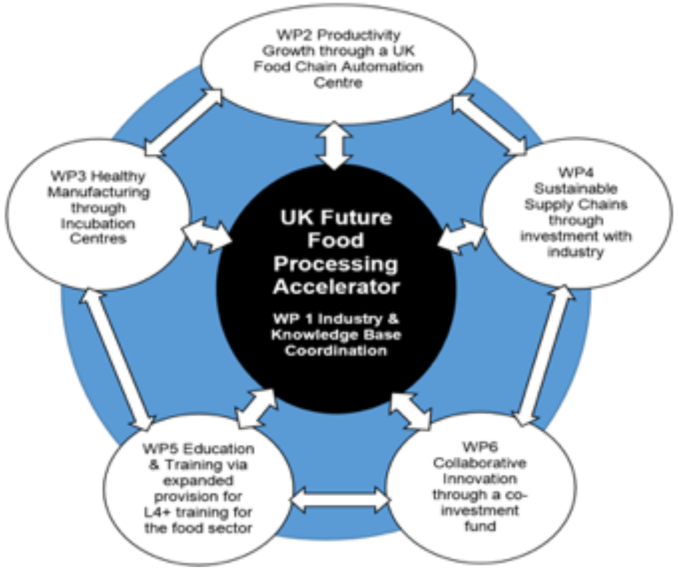

University of Nottingham
UNIVERSITY OF BIRMINGHAM

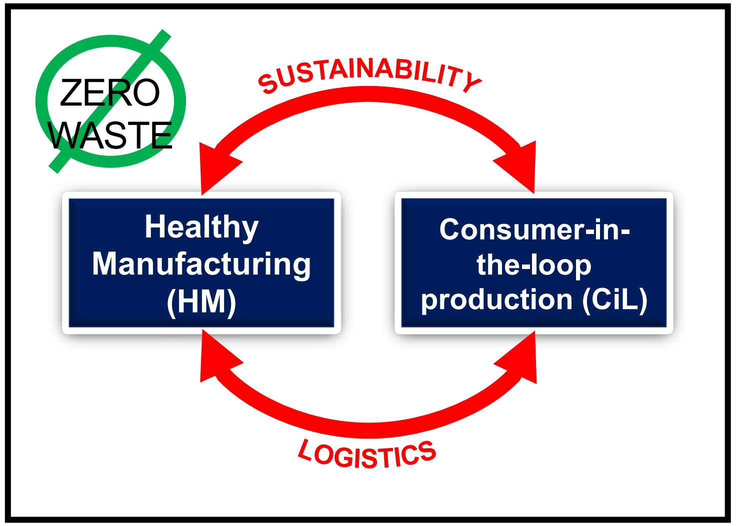
Future Food Processing Accelerator – Healthy Manufacturing

Concept Brief

February 2020

FOCUS
FOOD & DRINK FORUM





Food Sector : Jobs : Productivity : Resilience : Economic Growth : Net Zero