



Agribusiness 2019

Creating a resilient Agri-food supply chain



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**Creating a resilient
UK Agri-food supply chain**

An expert centre fit to lead
innovation and excellence for
the UK livestock sector

Lyndsay Chapman

*Chief Executive,
Centre for Innovation and Excellence in
Livestock*

 **#Agribiz2019**





Building a Centre to lead innovation for the livestock sector

Lyndsay Chapman, CEO

Centre for Innovation Excellence in Livestock

Setting the scene

Britain is ripe for agriculture innovation after Brexit



Prince Charles's cows among thousands of animals affected by outbreak of bovine tuberculosis, vets say

Food fraud costs UK firms £11bn a year

Farmers in drought summit amid fears of food supply crisis

Belfast company using Blockchain to fight food fraud

DNA traceability could guarantee authenticity of Scotch Beef PGI

International action to address antimicrobial resistance in animals

Figures from Waitrose suggest animal welfare, environmental and health concerns driving sea change in UK diet

No-deal Brexit will have 'serious implications' for UK beef and sheep farming

Ammonia emissions rise in UK, as other air pollutant levels fall

NFU highlights UK self-sufficiency issue



Setting the scene



UK Agriculture

Total utilised agricultural area (UAA) **17.5m** hectares

Livestock Populations

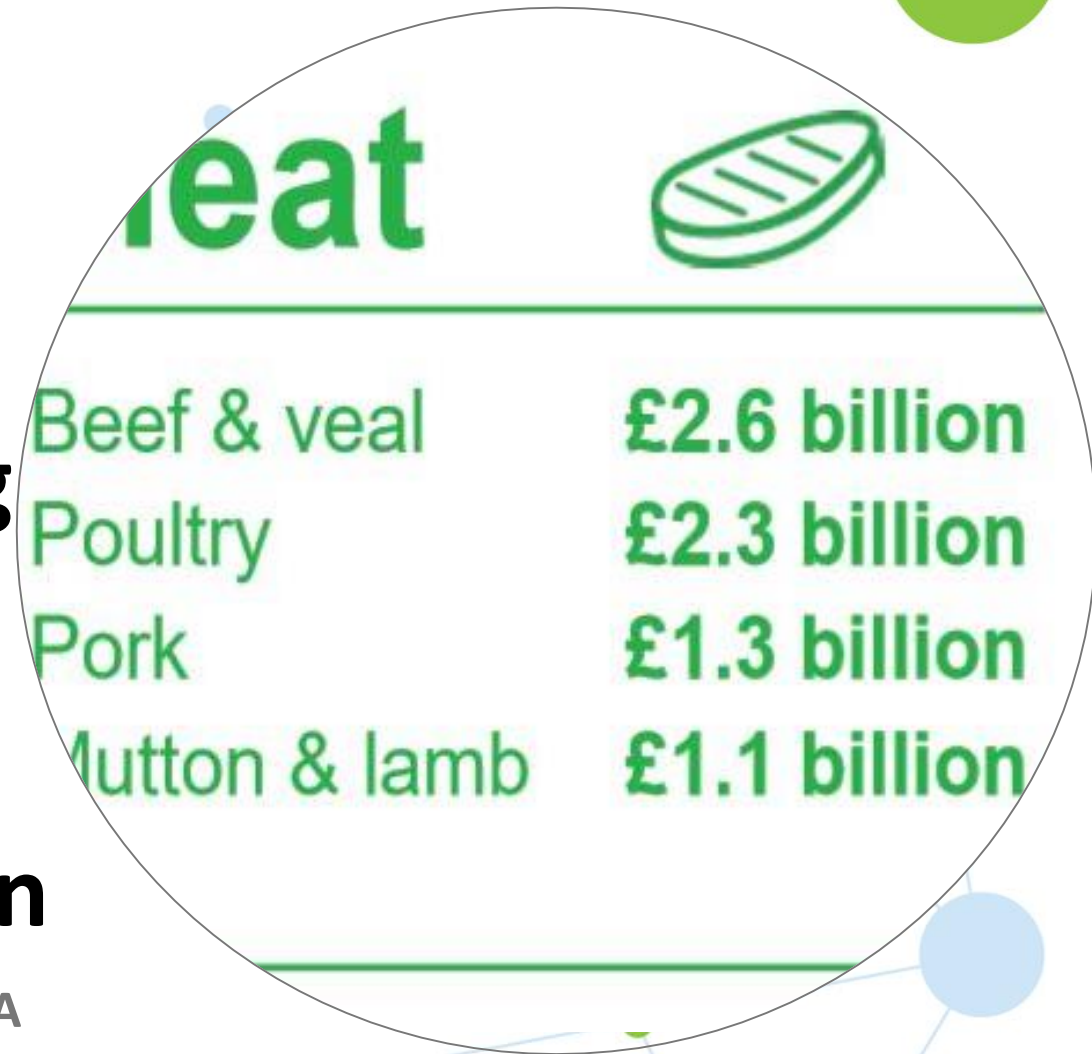
>70% UK Land Surface

Cattle & Calves 9.9 million
466k+ employment in farming

3.7m employment in agriculture as a whole
Pigs 5 million

50% of food we eat
Sheep & Lambs 34.3 million
£113bn contribution to national GVA

Poultry 182 million



Source: NFU Online Final report: Contributions of UK Agriculture. 2017. Development Economics

Source: Defra: Farming Statistics 2018 and 2017.

Setting the scene

Resource Efficiency
Food production
Tackling the
Grand Challenges
must grow > 50% by



AMR & Gut Health
2050 to meet

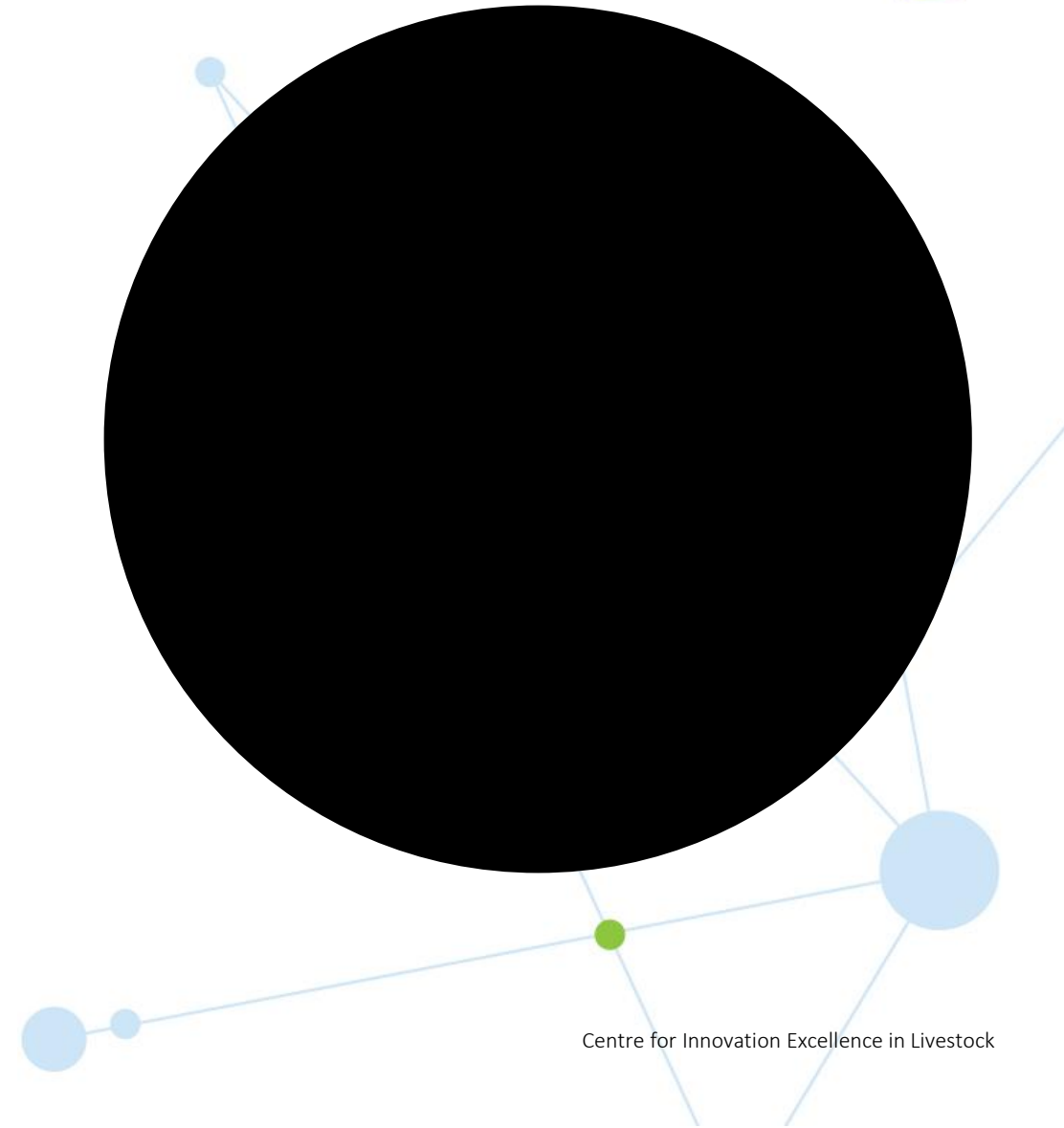
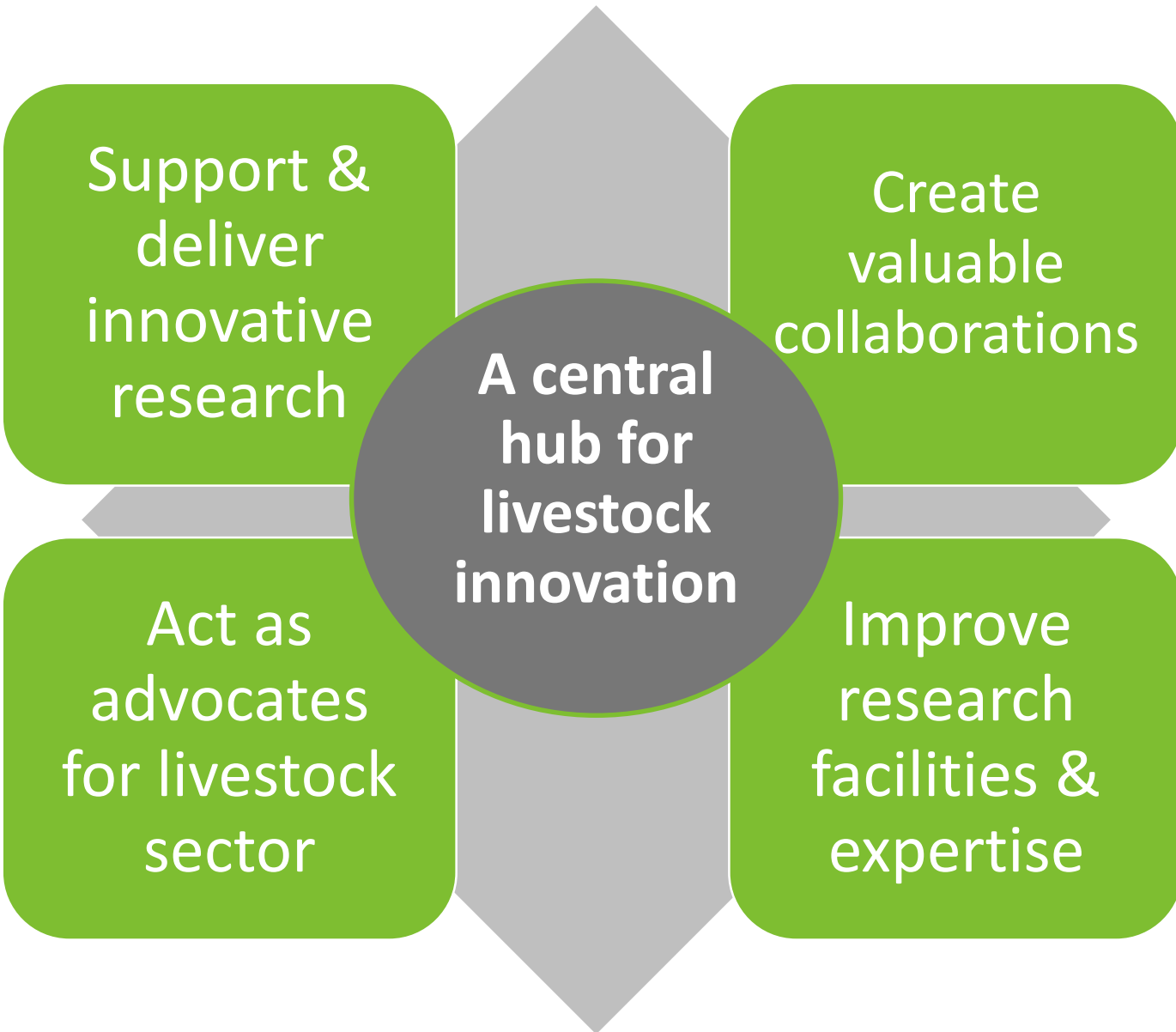
population growth &
Endemic Disease Reduction
rising demand

Environmental & Economic
Sustainability

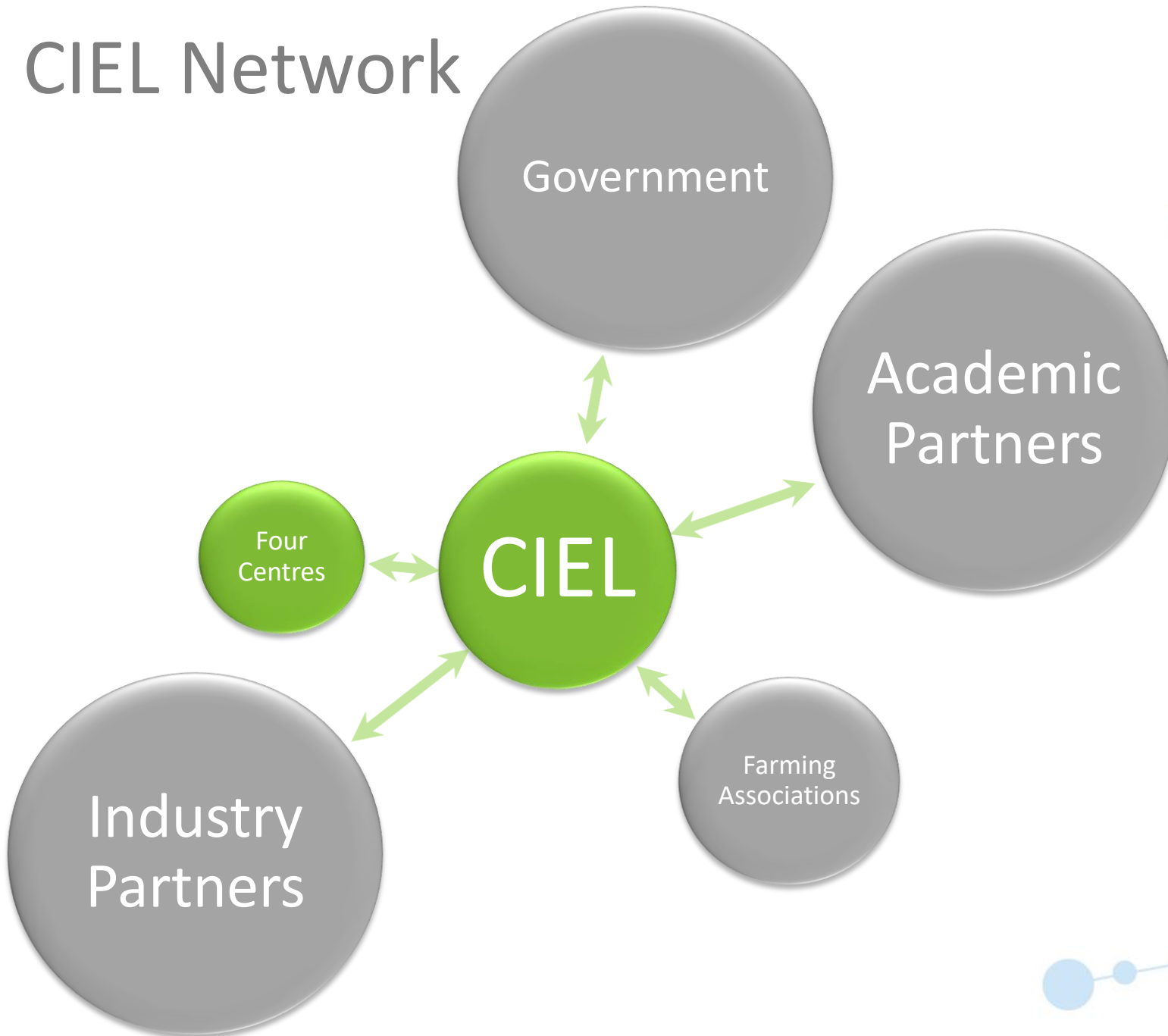
Improving Product Quality

Food Pathogens & Safety

What we're here for



CIEL Network





Harnessing expertise & opportunity for the livestock sector

Multiple **partners** and **new capability**,
across **all species**

£70 million the greatest investment in innovative livestock research facilities in a generation

The **largest alliance** of livestock researchers in Europe

Delivering a **culture of collaboration**
across the livestock supply chain



Working with academia



ROTHAMSTED
RESEARCH



Harper Adams
University

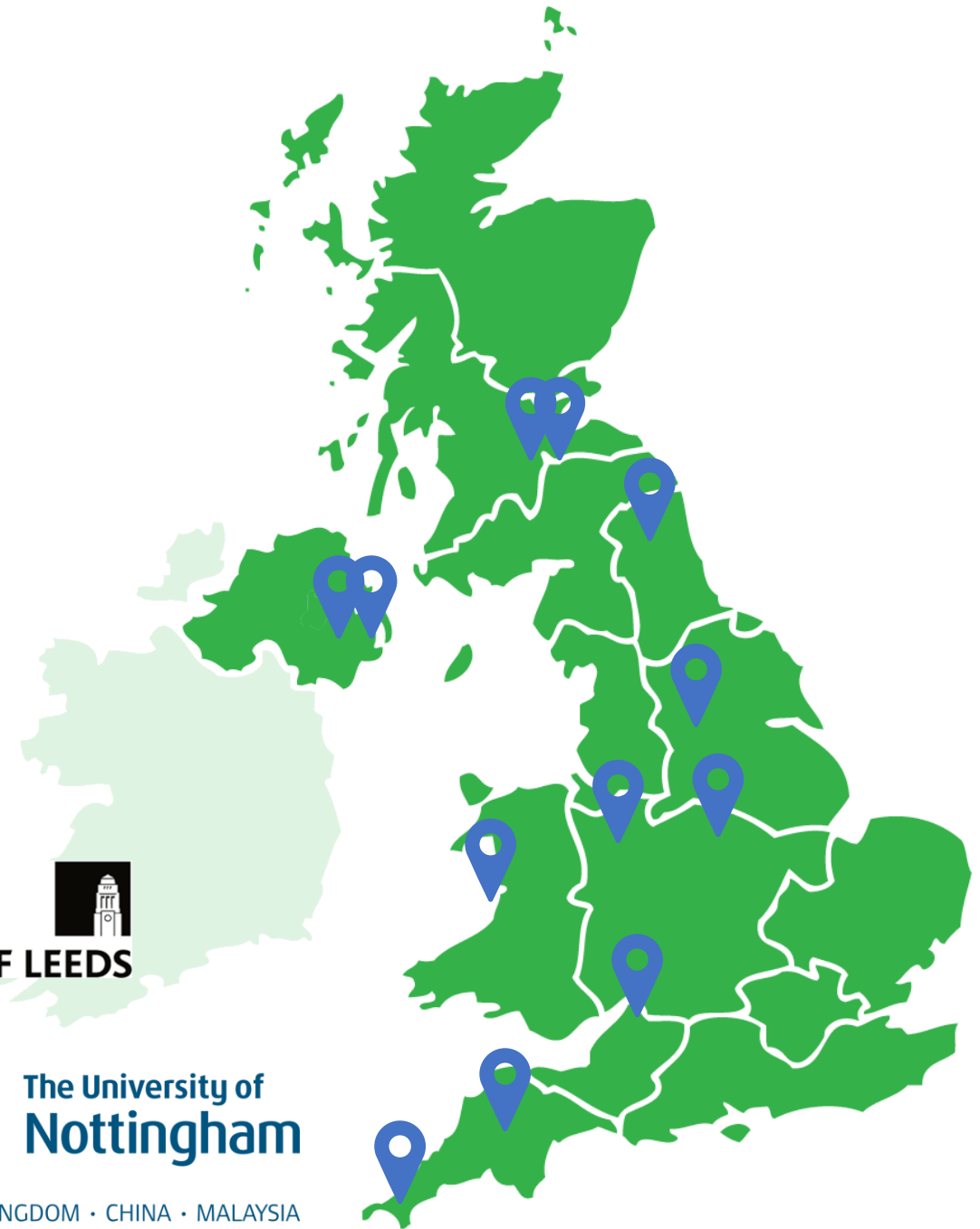


QUEEN'S
UNIVERSITY
BELFAST



The University of
Nottingham

UNITED KINGDOM • CHINA • MALAYSIA



Working with industry



Food Group



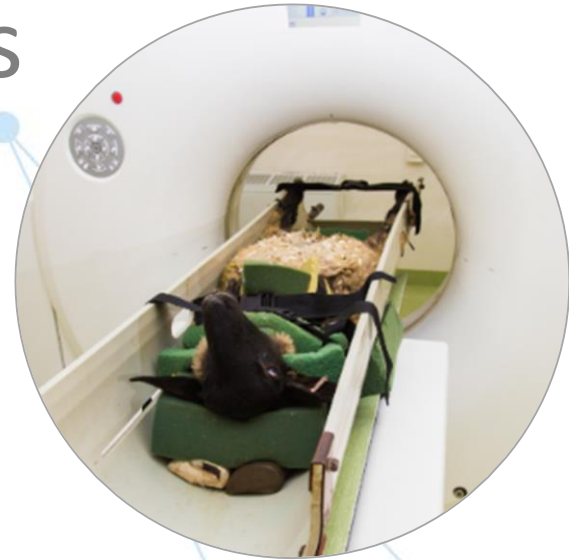
Centre for Innovation Excellence in Livestock



Areas of investment in new capability across 12 Institutes and Universities



- ▶ Animal nutrition – precision feeding and novel diets
- ▶ Forage efficiency
- ▶ Genetics and breeding
- ▶ Animal housing
- ▶ Environmental impact
- ▶ Rumen function
- ▶ Diagnostics
- ▶ Epidemiology
- ▶ Behaviour studies – advanced imaging and monitoring



Investment in new capability



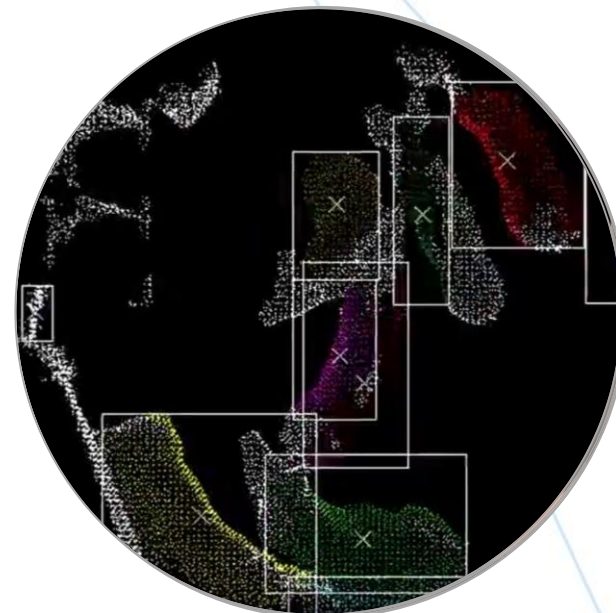
North Sheep Farm Platform -
New County Park - Bristol
Metal Rolling Unit - AFBI



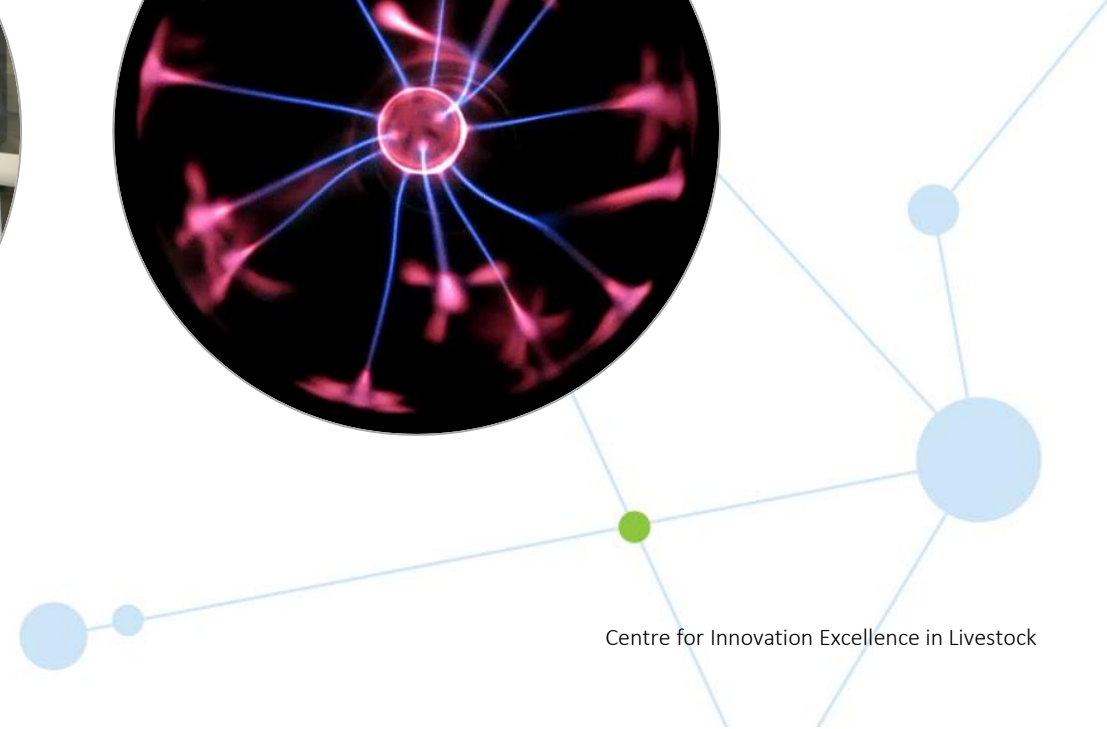
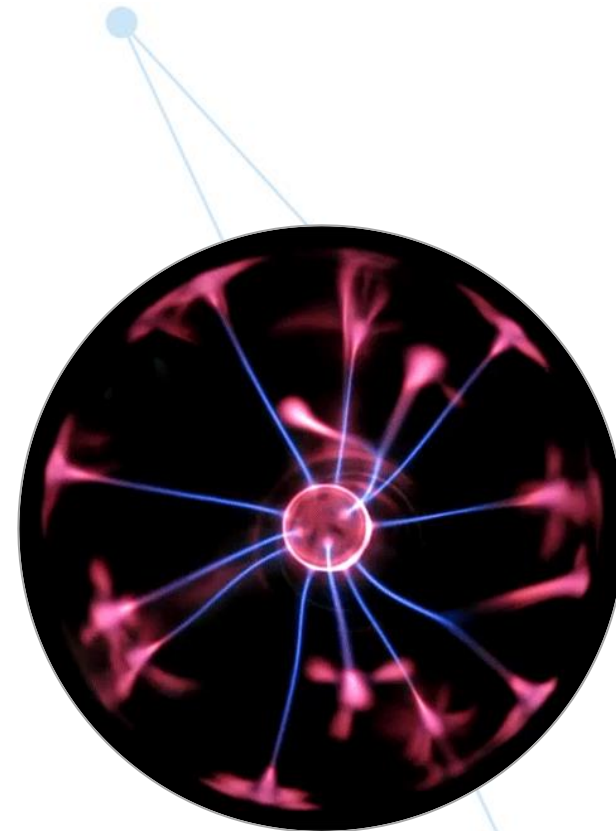
High Precision Beef
Carcass Classification Unit
Mechanical Handling Unit
Platform - AFBI



Centre for Digital Innovation
Centre for Dairy Science
Mobile Food Safety Lab -
Innovation Nottingham
FarmSense



What's is innovative?



In action: Infrastructure & Innovation

Centre for Dairy Science Innovation

Project: Investigating the importance of loafing space

Aims: to evaluate the impact of cow loafing space allocation on health, behaviour and milk production



A screenshot of a Farmers Weekly article. The article title is '£6m dairy research centre aims to raise sector productivity'. The author is Philip Clarke, dated 23 May 2018. The article includes a photograph of cows in a stall. Below the photograph, there is text: 'A £6m Centre for Dairy Science has been opened at the University of Nottingham's Sutton Bonington campus, intended to "cement the UK's position" as a global leader in dairy research. The new facility has been jointly funded by the university and the Centre for Innovation and Excellence in Livestock (Ciel), and by the UK's innovation agency, Innovate UK.'

In action: Infrastructure & Innovation



University of Bristol – poultry research unit

Project: Lighting for Broiler Enhanced Welfare and Commercial Output

Aims: to further develop and test the first ever bio-adaptive, circadian, smart lighting system for broiler chickens that will recreate the properties of natural daylight

PoultryNews 



Grants for chicken research awarded to Bristol Vet School

HEALTH & WELFARE, WELFARE



Centre for Innovation Excellence in Livestock

In action: Co-ordination & Collaboration



Feed into Beef – Optimising beef nutrition



'Increase production'

CIEL is working with a range of academic and industry partners to harness the best of current science and align it to industry needs.

“The project has been shaped to bring together industry, academic and commercial players across the beef industry to deliver a nutritional model that will enable beef farmers to increase production efficiency, reduce feed cost and improve the environmental impact of beef production”

Dr Mary Vickers, AHDB

In action: Co-ordination & Collaboration

Supporting Small Businesses

Company: JRH Water Management – a micro SME specialising in water harvesting and purification for agricultural applications

Working with CIEL to develop a biofilm sensor for pipes supplying water into pig and poultry units.

Support through:

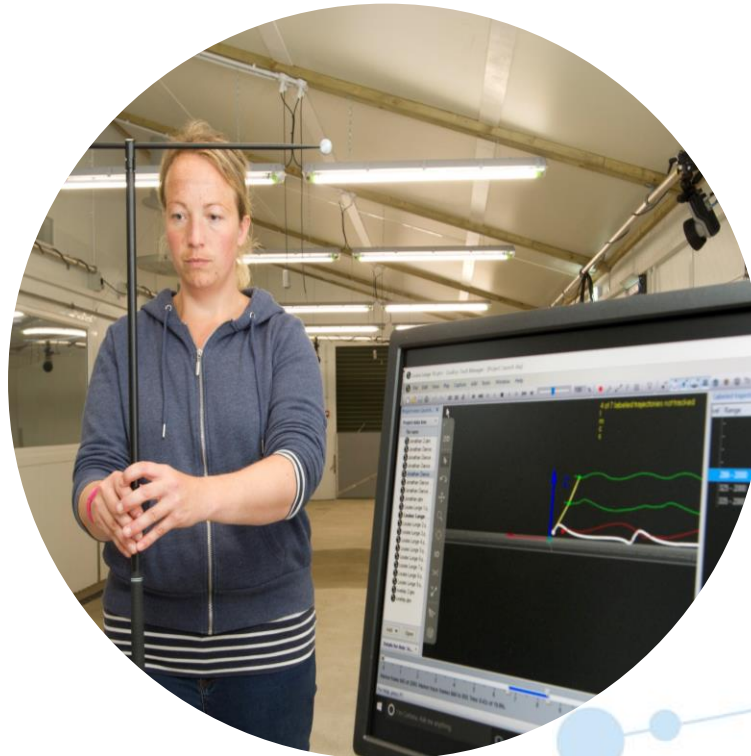
- Developing a commercial model;
- Finding initial route-to-market partners;
- Advising on grant funding opportunities



In action: Ensuring Talent for the Future



Attracting and exciting future leaders and innovators with different skill sets



How to get involved

Several Members here already

Contact me to discuss research priorities

Message CIEL about Membership

Work directly with Universities where you already have a relationship

Unsure which Agri-Tech Centre most relevant?
Contact any of us and we can help



In Summary:

- **Livestock food chain is important**
- All want to drive greater efficiency, resilience and wealth for a world class livestock sector
- Need to be joined up across government, industry & academia
- CIEL:
 - ❖ Open minded
 - ❖ Open access
 - ❖ **Open for business**



Thank you

Please get in touch with us

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@CIELivestock1



Centre for Innovation Excellence in Livestock





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