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Technology Strategy Board



Department for  
Business, Energy  
& Industrial Strategy

# **AGRI-EPI Centre Ltd**

## **Aspiration, Activity and Opportunities**

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**AGRIEPI CENTRE**  
Engineering • Precision • Innovation

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# Where did it all start?

## NEW CENTRES FOR AGRICULTURAL INNOVATION

The Centres for Agricultural Innovation are a new collaborative model between the agri-tech sector and government. The centres have been initiated to help :

- *turn agricultural innovation into commercial opportunities for businesses*
- *encourage inward investment*
- *improve farming practice*



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## (UK Govt)...The aims of these new Centres are:-

- *To improve the economic performance of farming through the development and uptake of technologies, knowledge, and practices*
- *To recreate leadership in this area by joining-up existing excellence*
- *To resolve challenges that no one part of the sector can address alone*
- *To open up opportunities for transformational change in the sector*

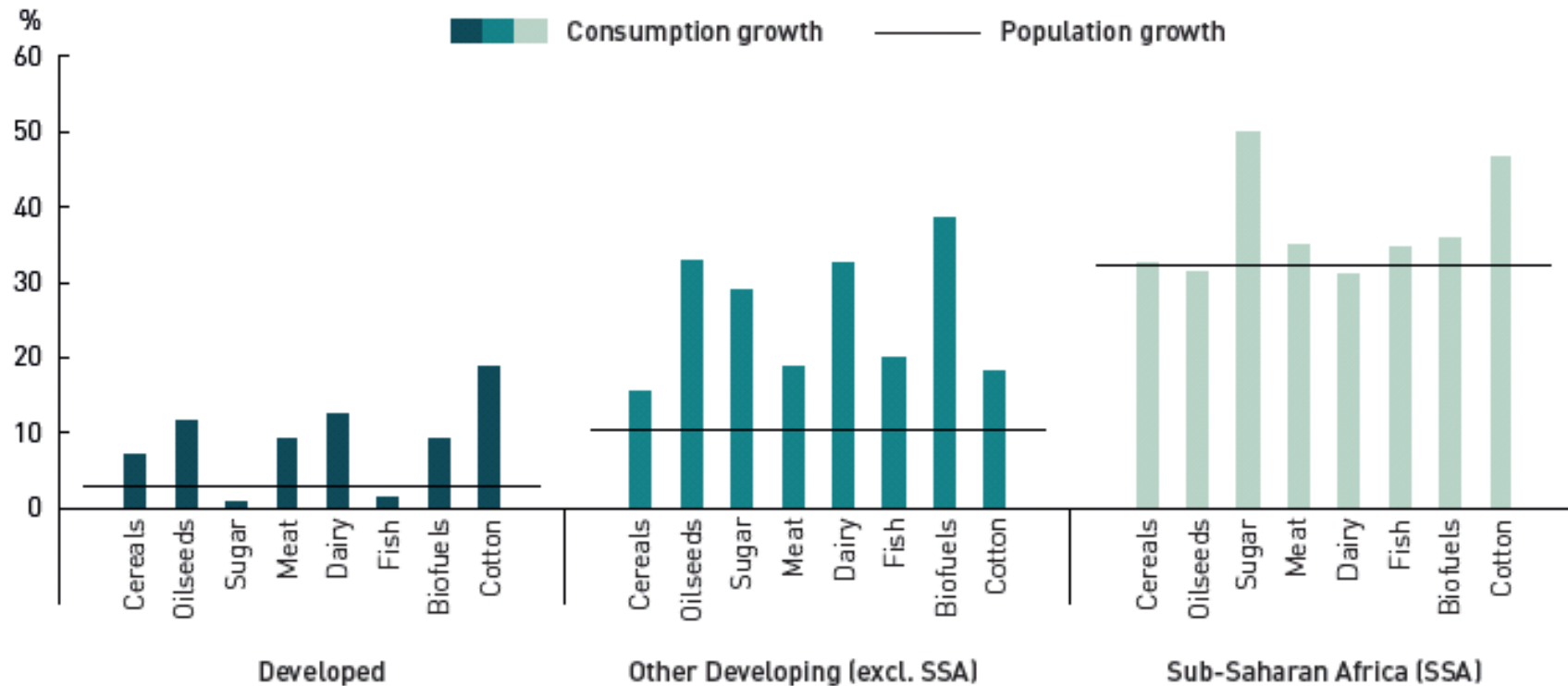


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# An “aside” - Growth in Agriculture production

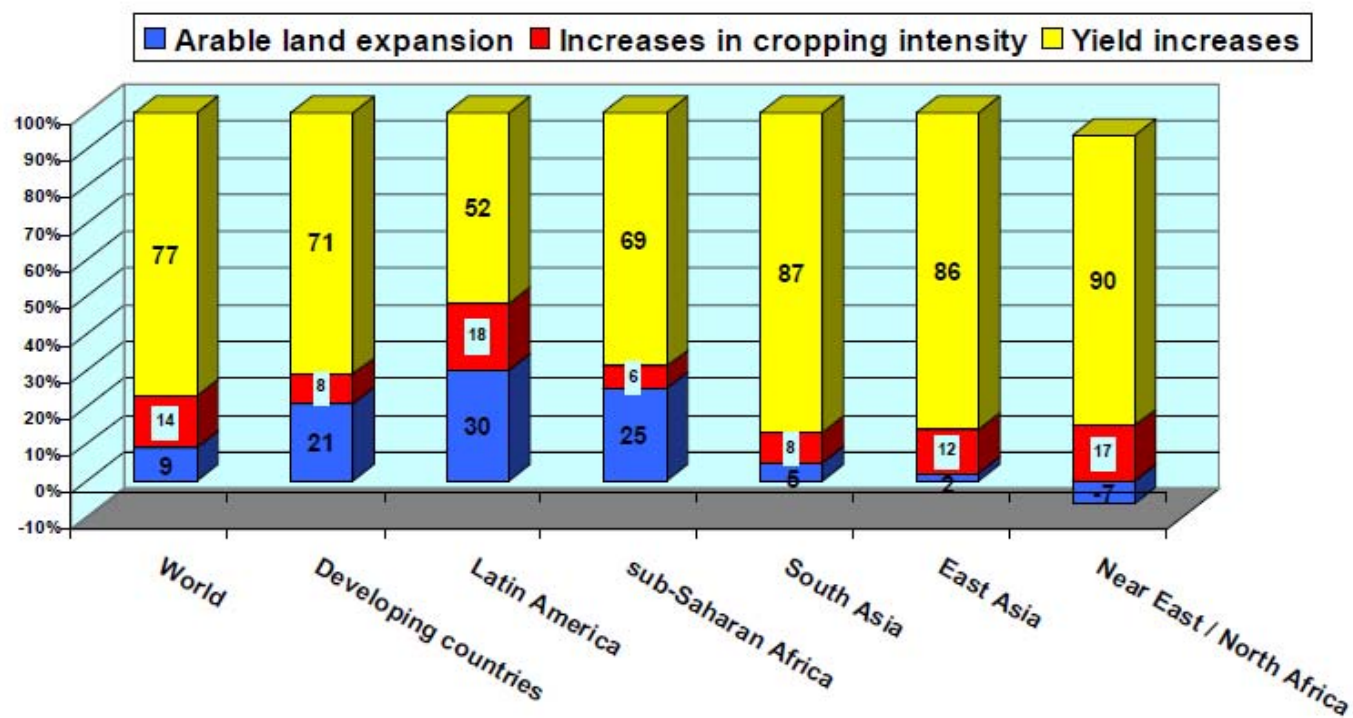
## The Global perspective



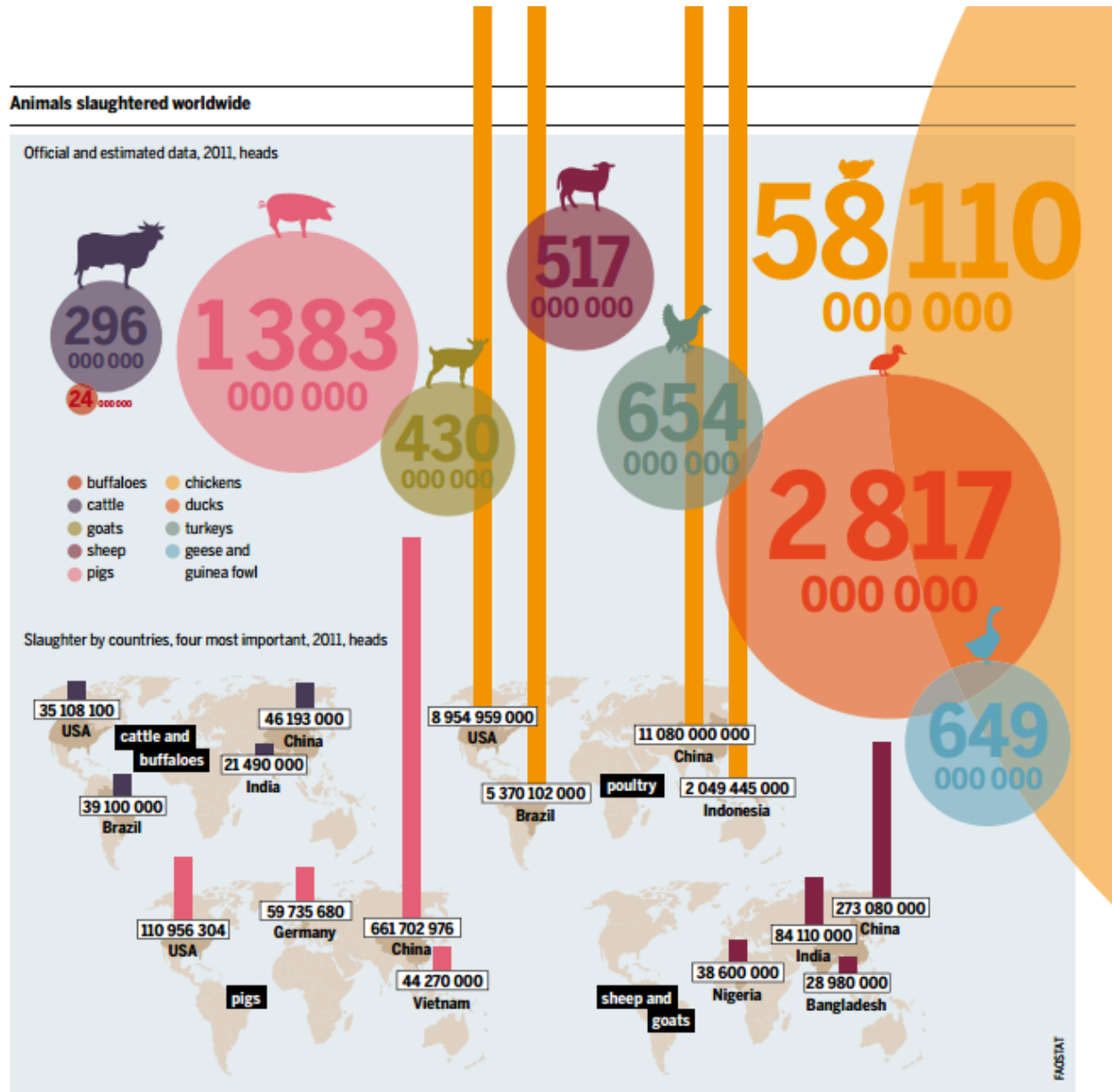
2013-2015 average vs 2025

# Crops, global...

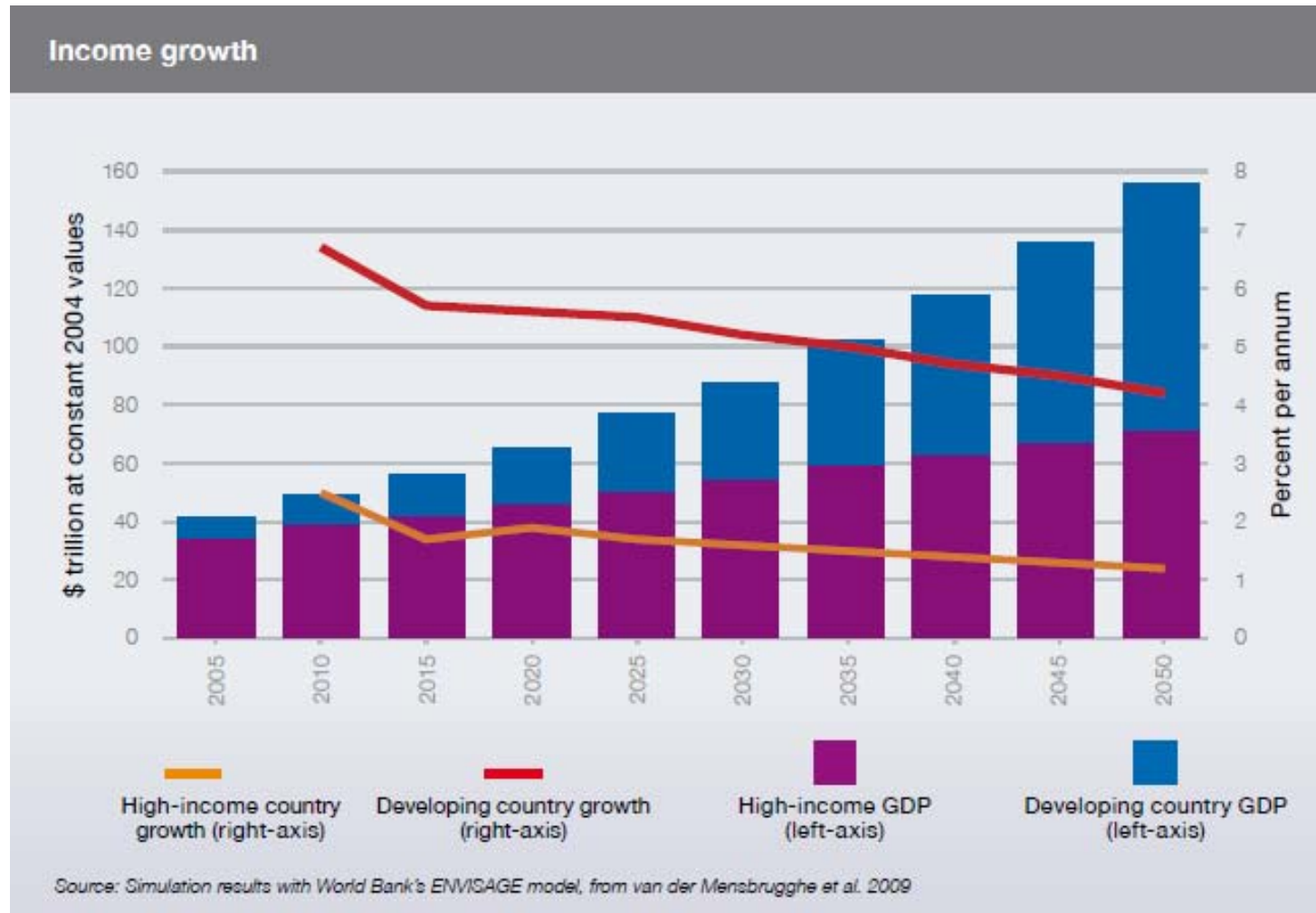
## Sources of growth in crop production (2005/07 to 2050)



# Global Terrestrial Livestock production 2011



# Food purchasing power?



# Back to the Centres...

## Agri-EPI Centre Ltd

Agricultural Engineering Precision Innovation Centre

## CIELivestock Ltd

Centre for Innovation and Excellence in Livestock

## CHAP Ltd

Crop Health and Protection

## Agrimetrics Ltd

Big Data Centre of Excellence



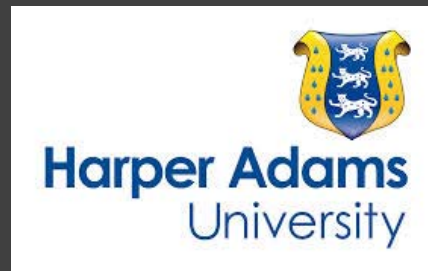
# So...Agri-EPI Centre: What is it?

Brand new UK Innovation Centre to deliver :-

- Research and development
- demonstration and training
- precision agriculture and engineering to service....

livestock, arable, horticulture and aquaculture  
sectors

# Agri-EPI Centre: who is behind it?



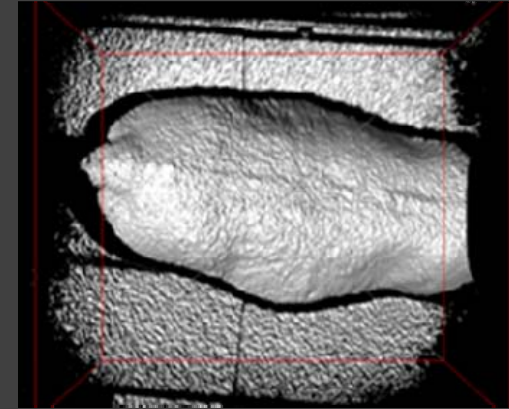
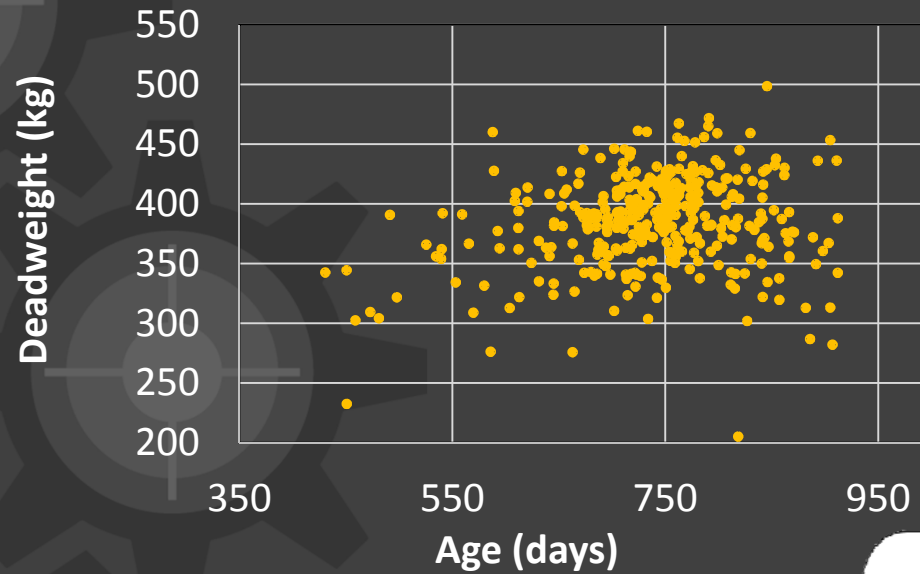
A.N. other...

# How Agri-EPI links with business needs

- **Innovation Hubs**
  - One-stop access to leading academic institutions
  - Developing exciting new facilities for R&D, demonstration and training, including a range of capital equipment for projects.
  - Partnering researchers, industry & funding
  - Developing incubation facilities at a range of scales
- **Instrumented real commercial farms and processing sites**
  - Data for identification of issues/opportunities
  - Develop, test & demonstrate new technologies in real farm/processing situations

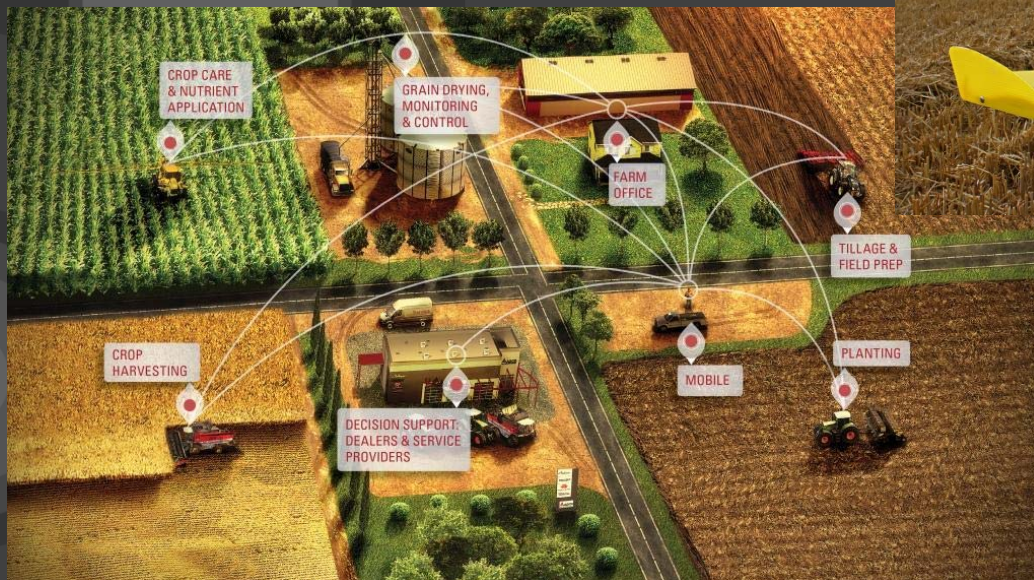


# A vision around variance

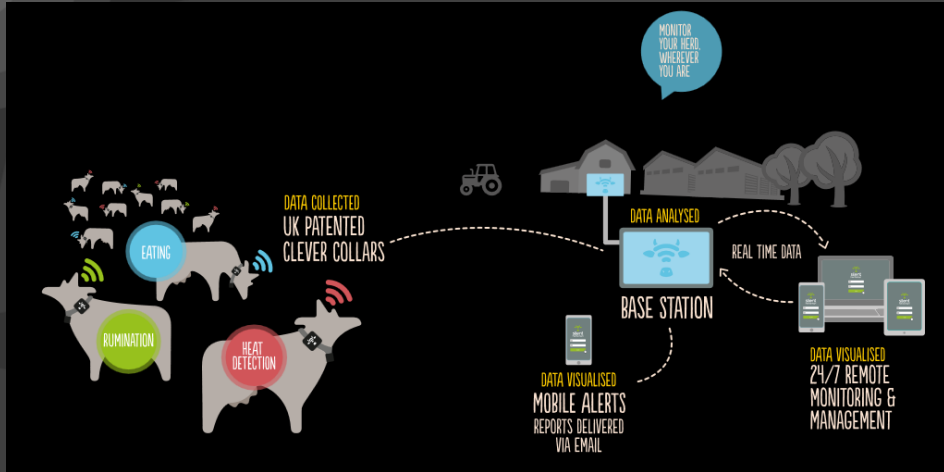




# Sensors, IoT and robotics/automation



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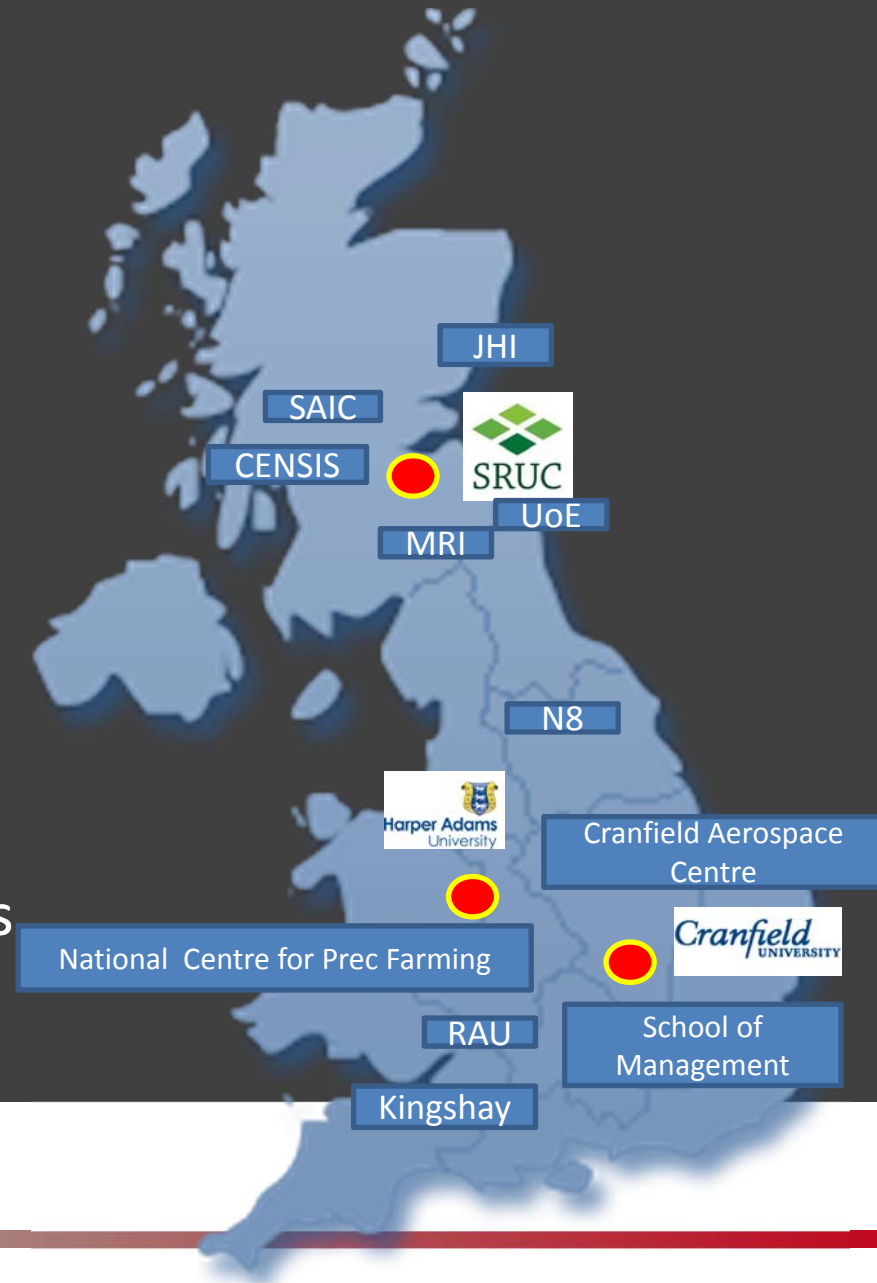
# EPI Centre – backed by industry

- **Industry fully engaged**
- **over 75 industrial partners**
  - Multi-national Agricultural Engineering companies
  - Retail Multiples
  - National and international food product supply chain companies
  - SME Agri-technology companies
  - Agricultural supplier companies
  - Non-sector technology companies
  - Farmers
- **PA global market \$7.8B by 2022, CAGR 14.9%.**
- **Agric. Eng. market 2015 >c£\$95B**



# EPI Centre – a network of excellence

- National coverage
- Dynamic and flexible links
- The Hubs
- Aligned organisations
- Satellite Innovation facilities
- Mobile laboratory facilities
- Incubation Facilities
- Training and dissemination facilities



# Hub facilities

- Sensor platform (indoor) in partnership with partner CHAP National soil test facility
- Regional test and incubation facilities for new commercial initiatives
- Suite of instrumentation capable of field use
- soil imaging/mapping, non-invasive animal imaging, hyper-spectral imaging, satellite imaging access, autonomous/robotic systems
- controlled atmosphere crop storage, primary processed product quality etc etc
- Knowledge exchange capacity across the UK to commercial businesses.



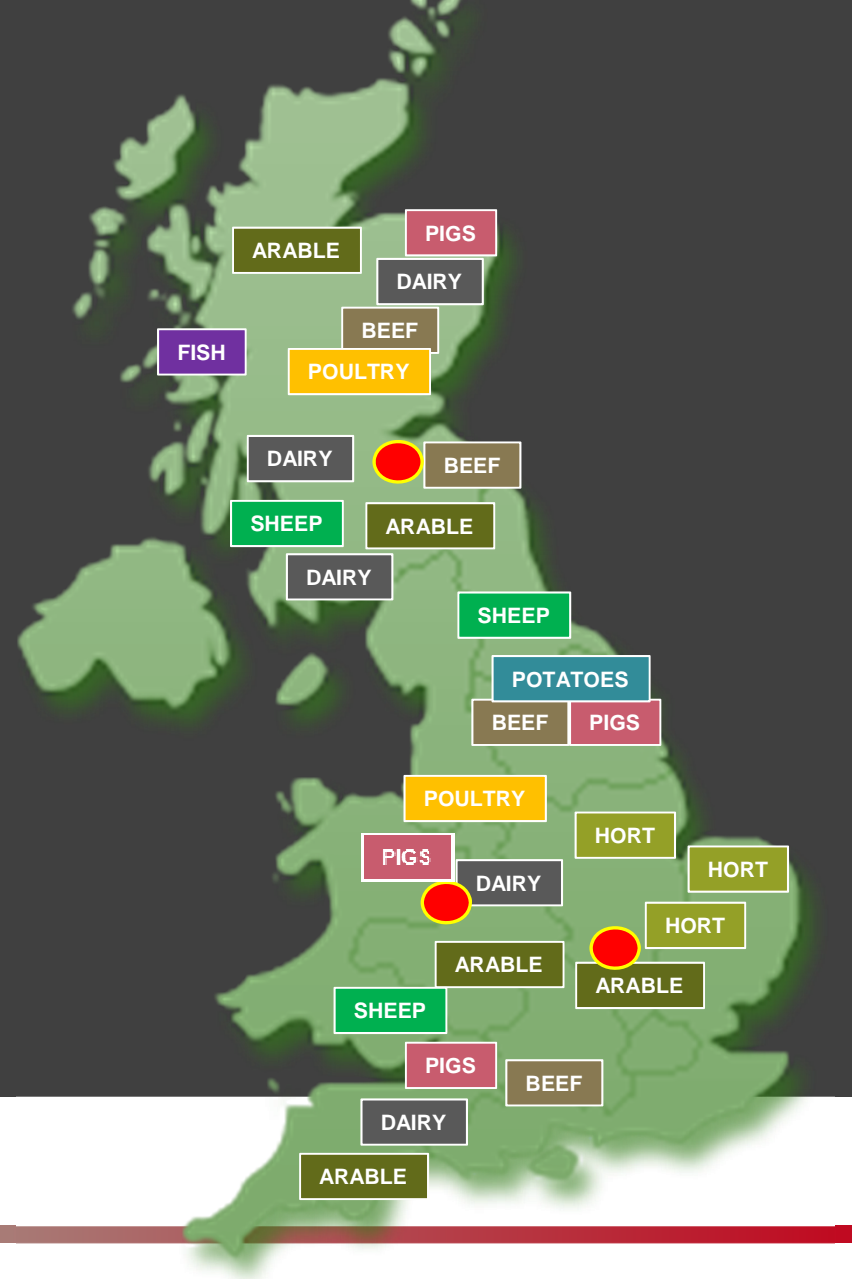
# Dairy development Centres

- Dedicated development Centres across UK (Scotland, Shropshire and Somerset)
- Built to explore housing and new sensor options for profitable management
- All incorporate robotic milking



# Agri-EPI Centre – and its “satellites”

- Monitoring key sectors throughout the entire production and processing chain.
- Precision monitored to identify performance and variance.
- Unified technology for full data utility - all linked to other Centres
- A unique resource of exemplar farms for development, evaluation and demonstration of technology.
- Dedicated dairy development centres



# International opportunities?

- China/India/Far East, modernising agricultural machinery?
- Precision irrigation, crop monitoring?
- South America – precision livestock farming?
- Central Asia – modernisation of machinery?
- Europe, North America, Australia/NZ?



# Facility and partnering opportunities

- Network of national and international Industry partners (growing!)
- UK/EU wide communication with all agri-sectors
- Access to advanced equipment and instrumentation for project activities
- Access to data on real farms
- Access to meeting rooms, seminar rooms etc.

# Funding/support opportunities

- Engage at UK/EU/Global project level with e.g. Agri-EPI led projects.
- Use Agri-EPI as support infrastructure for project activity
- Use Agri-EPI and industry member resource to partner in projects e.g. both develop and market new precision tech
- Real-time production data available, pending accessibility arrangements

# Initial activity...

- Active project 1 – Precision methods of identifying pig welfare
- Active project 2 – Precision soil mapping
- Active project 3 – Remote sensing opportunities in livestock farming
- Many others in pipeline..



# Get the message out..

- Precision technology and agricultural engineering will be at the forefront in addressing the issues of 21<sup>st</sup> century international food production.



Thank you for listening

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