

# Scotland the resourceful

**New report highlights the country's strength in agri-tech, animal health & aquaculture**

A recent research report has identified more than 200 companies, research centres and academic partners as key stakeholders in the animal health, agri-tech and aquaculture (AAA) sector in Scotland. The sector is important to both the life sciences and technology sectors and underpins the country's high performing food and drink industry.

The future AAA landscape was also explored, with multiple new centres, hubs and new trial facilities planned over the coming years, showing the vast expansion and investment in this area.

A fellowship was set up to increase the understanding of and identify strengths and opportunities for the AAA sector in Scotland. It was funded by the Scottish Environment, Food and Agriculture Research Institutes (SEFARI) in partnership with the Scottish Life Sciences Industry Leadership Group and Highlands and Islands Enterprise (HIE). HIE is the economic development agency for the North and West of Scotland.

SEFARI fellow Dr Jenna Bowen, from Scotland's Rural College (SRUC), has created an inventory by mapping what currently exists in the sector across Scotland, and analysed a survey of key stakeholders.

The fellowship has provided a greater understanding of Scotland's world leading core capabilities and international assets within animal health, agri-tech and aquaculture and amplifies the voice of this fast-growing sector which is at the heart of the green

and circular economies.

Alongside the report, the inventory provides an overview of the vast breadth and expertise within the sector across academic institutes, companies, innovation centres, networks and consortiums, charities, government and development agencies, and business gateways and venture studios.


A large proportion of identified stakeholder are based around the central belt of Scotland and the Highlands.

The report also includes a list of trial facilities, both animal and crop, which exist across Scotland and contribute to Scotland's world leading research within the AAA Sector. Crop science also featured strongly in the report and several research institutes contribute to the knowledge base.

## **World leading facilities**

The James Hutton Institute combines research and expertise in crops, soils, land use and environmental research to help address global challenges including food security. It has a broad range of expertise and resources including genome technologies, functional genomics to elucidate the genomes of key and commercially relevant crops for livestock feeds (e.g., barley grain), and pathogens within the crop and livestock sector. The institute houses world leading facilities including research farms, glasshouses and growth facilities. Its Centre for Sustainable Cropping delivers sustainable management practices and improved crop varieties.

The Agronomy Institute in Orkney, part of the University of the Highlands and Islands, is a research facility for the development of plants and plant-based products focussing particularly on the



Highlands and Islands. The Institute collaborates with growers, end-users and other research organisations and has a wide-ranging research portfolio.

It collaborates with the food and drink industry to develop higher value markets for locally grown cereals and create a wider range of distinctive food and drink products using Highlands and Islands ingredients. Current activities include major projects with three Scottish malt whisky distilleries and the identification and utilisation of early maturing varieties of barley, oats and wheat from northern Europe.

SRUC combines and integrates research, education, and

consultancy in the land-based sector, and is the largest institution of its type in Europe. It operates dedicated facilities for crop trials and offers consulting services to over 12,000 customers, using expertise in veterinary services, livestock and crops, environment design, farm diversification and rural business management.

### **Attracting new start-ups & investment**

The AAA sector is developing fast and new crop science developments are coming on stream across the country, for example the International Barley Hub and Advanced Plant Growth Centre (APGC).

These two new innovation projects have recently started operating and the main infrastructure will be complete in 2023. Funded through UK£62m/US\$74.8m investment by the UK Government and Scottish Government (through Tay Cities Region Deal), they will attract new start-ups and investment.

The International Barley Hub will develop new varieties and growing systems to future proof the barley sector against climate change. The APGC will revolutionise crop productions including the use of indoor vertical farms ultimately reducing crop productions environmental impact.

APGC focuses on pre-and post-harvest technologies and solutions to support, develop and create plant and crop-based industries. This places the APGC at the centre of the emerging disruptive global technologies of total controlled environment agriculture including vertical farming.

The report also showcases the Scottish business base that forms the supply chain for the AAA sector, supporting production companies with new technologies and services.

For example, the Edinburgh based company Crover offers unique grain storage solutions to automate monitoring for optimal storage conditions. Another Edinburgh company, Celestia, specialises in terrestrial and space borne IoT devices including drone and unmanned aerial vehicles for crop spraying.

As mentioned above, the report is the output of a SEFARI Fellowship project aiming to increase the understanding of the AAA sector in Scotland and improve understanding of opportunities and challenges facing the sector.

### **Co-designed with key partners**

SEFARI, the Scottish Environment, Food and Agriculture Research Institutes, is a consortium of six globally renowned



research institutes: Biomathematics and Statistics Scotland, The James Hutton Institute, Moredun Research Institute, The Rowett Institute, Royal Botanic Garden Edinburgh, and Scotland's Rural College.

As SEFARI, these institutes deliver the Scottish Government funded Strategic Research Programme, which addresses key mid to longer-term challenges for Scotland's environment, agriculture, land use, food and rural communities. SEFARI was launched by the Cabinet Secretary for the Environment, Climate Change and Land Reform on 29 March 2017.

SEFARI Gateway Fellowships are bespoke opportunities co-designed with key partners to deliver solutions to priority needs that also meet Scottish Government National Outcomes and aligned United Nations Sustainable Development Goals.

The report and inventory can be downloaded from the Life Sciences in Scotland website <https://lcs.home.directories.scot/>