

# Harnessing the power of Scotland's agri data - keeping it here and making it work for us

SAOS's George Noble explains why a co-operative approach is vital

The bold target set by Scotland Food & Drink's Ambition 2030 strategy challenges industry with growing Scotland's food and drink sector to £30bn by 2030. This strategy comes at a time of hastening political, social, environmental and technological change, as well as a backdrop of an agricultural sector in which productivity is growing more slowly than many of our major competitors. It is recognised that achieving this ambitious target will require unprecedented levels of innovation and collaboration at every point in the supply chain, and a deeper level of engagement with primary producers.

Skillful application of new technologies and the intelligent use of supply chain data will be central to achieving this growth target, whilst at the same time ensuring our agriculture industry is at the forefront of tackling the climate emergency. Insights derived from farm level data will be vital in achieving that balance, through more precise and targeted use of inputs, machinery and labour.

Whilst it is broadly recognised that precision farming technologies will play a key role in shaping the future of a more productive food system, the uptake and impact of these technologies within Scottish agriculture to date has been limited – the main challenge being our limited ability to collect, analyse and derive actionable insights from multiple farm data sources, including in-field sensors, drones, livestock sensors, yield maps, satellite imagery and many more. This has been compounded by a largely top-down, technology-push approach from agri-tech vendors, where closed and proprietary systems limit the ability to aggregate and share data.

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Much work also needs to be done to ensure that the efforts of Scottish agriculture to be responsible environmental stewards is not built on fragile foundations, but instead upon dynamic, verifiable data showing improvements in soil health, a reduction in emissions and wastes, and improved livestock health and welfare. In doing so we can proudly offer our supply chain customers and end consumers with premium products that are safe, traceable and limited in their environmental impact.

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## Why a Co-operative Approach to Data is Needed

To date, the precision farming 'revolution' has been largely driven by a small number of large corporations. Through a combination of frequently opaque data sharing agreements and proprietary software, these organisations have exerted tight control over farm data – where valuable insights into our farming and production systems are being concentrated into ever fewer hands. Couple this with a need for increased awareness among Scottish farmers as to the true value of their farm data, and it is easy to envision a future where Scottish agriculture becomes unwittingly annexed from the treasure trove of data it generates. Unchecked, this concentration of agri-data has the potential to lead to a significant shift in the power relations within both agriculture and the wider food and drink supply chains. In this context, the data revolution could exacerbate some of the most pressing problems in food systems, including restrictions on farmers' choices.



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Co-operative and other farmer-aligned models of agri-data management offer a promising solution to these challenges – allowing ownership, control and value to be retained by the very farmers generating the data. Placing the management of agri-data within a co-operative structure and making sure that data is independent of any proprietary platform or technology will allow maximum flexibility in how that data is used and that the focus will always be aligned with co-operative principles of maximising member value. A small number of farmer focused models of agri-data management are now appearing, where co-ops such as Growers Information Services Co-op (GiSC) and JoinData, as well as companies like Farmobile and Farmers' Business Network (FBN) are using more open, scalable approaches to data collection and management to deliver value to farmers.

Whilst data derived from a single farm may provide practical insights for that enterprise, the real power of co-operatively sourced and managed data arises when large volumes of high fidelity, real-world, real time data is collected across a large number of farms. Advanced analytics can then be applied to that data set to identify patterns and trends, and deliver actionable insights to farmers based on the findings that will improve decision making and, in turn, profitability.

An arable focused data co-op could, for example, offer aggregated insights into the efficiency and yields of different seeds, fertilisers and pesticides in different soil types and geographies – empowering farmers to make the right planting and buying decisions. It may also offer a farmer performance benchmarks based on geography, soil type or any other parameter.

Not only would a data co-op benefit farmers directly through improvements in on-farm practices, but the value of the data collected would have the potential to improve entire supply chains and, importantly, increase the influence and value of primary producers in those chains. If farmers are able to generate and control data that is central to the value proposition of the entire supply chain (relating to provenance or food safety for example), then they are less likely to occupy the position of 'price taker'.

## **SAOS – Leading on Co-operative Data**

SAOS is at the forefront of conceiving and delivering co-operative approaches to agri-data management that protect the data rights of farmers and will help unlock the value of precision farming for Scotland. By working hard to understand the complex interplay of co-operative governance, technology and trust, we have positioned ourselves as Scotland's leading source of expertise in this field.

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Having developed and delivered ScotEID, a world leading livestock traceability database based on industry owned data, SAOS understand the opportunities offered by this approach. Indeed, the success of ScotEID now sees Scotland at the forefront of animal disease management, replacing expensive, slow and inaccurate trace systems with a secure, reliable and low-cost system in which farmers never relinquish ownership or control of their own data.

SAOS is also working hard to improve farm-level connectivity through the establishment of the SmartRural co-operative, which is piloting the use of LoRaWan technology to enable remote farms with limited broadband and mobile connectivity to join the precision farming revolution using low cost sensor technology. (Find out more about SmartRural and LoRaWan technology at [www.smartrural.coop](http://www.smartrural.coop))

Scotland's experts on farmer co-ops and food industry collaboration, SAOS provides a range of specialist information, development and consultancy services.

For more information go to: [www.saos.coop](http://www.saos.coop) or call us on **0131 472 4100**



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the future of farming and food.