CUSTOMER CASE STUDY

Australian agtech provider leads the way in digitizing agribusiness

Company Anonymized
Industry - Agriculture

Goals

- Maximize food production while using less farmland
- Adopt new digital tools and applications to improve efficiency
- Enhance collaboration and build a data ecosystem for agriculture

Challenges

- Most agricultural producers still lack IT departments and central data stores
- Agribusinesses are commonly geographically dispersed
- Without a strong data management foundation, it is very difficult to adopt new digital technologies

AVEVA Solution

- CONNECT

Results

- Established a central, cloud-based data repository for agribusinesses
- Transformed the mosaic of an agricultural landscape into a data-sharing community
- Established the data foundation to support the easy adoption of new digital tools and applications

One Australian-based provider of agriculture technology (agtech) solutions has a watchful eye trained on two global trends. First, the world's population is growing significantly. The global population stands at 7.9 billion today and, by 2050, experts forecast that figure to reach nearly 10 billion. Meanwhile, Because of urbanization, industrialization, erosion, pollution, and the growing consequences of climate change, arable land, year by year, is on the decline.

The challenge lies at the intersection of these two trends. According to the UN Food and Agriculture Organization, global food production will need to rise by at least 70% to accommodate the ever-growing population, but it will need to do so while relying on an ever-shrinking availability of farmland. It's an essential challenge of our time, which is why this agtech provider, with the help of CONNECT, is leading agricultural producers, processors, and all their value-chain partners to pioneer novel, data-driven solutions for a more sustainable and food-secure future.

"CONNECT's ability to scale massively, up or down, coupled with AVEVA's experience in data management across the full breadth of industries makes them an ideal partner in our mission of digitizing agribusiness across Australia and globally."

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Founder and directing manager
Australian-based agtech provider

Shepherding agribusiness into the digital age

As agribusinesses produce foodstuffs, they are also producing large quantities of data. Analyzing that data is increasingly helping firms maximize production, build more efficient operations, and enhance collaboration inside their team and across the value chain. The trouble is that most producers lack the data management foundation to gather the right data and feed the algorithms and models they want to use.

"What we found within agriculture," said the founder and directing manager of the company, "is that growers really weren't on top of their data." Your typical farming operation is spread across a substantial geographical territory and is responsible for a likewise substantial assortment of business units, machinery, and types of equipment. Many agricultural producers don't have traditional IT departments or central systems in which to store their data, which means the data they do have is usually fragmented and kept in disparate forms across disparate systems.

In response to these challenges, the Australian agtech provider developed an advanced agtech platform designed to maximize the value of data across the agri-food supply chain. The platform relies on CONNECT data services in the cloud as the core of its data infrastructure to help bring agribusinesses into the digital frontier. It modernizes the laborious process of extracting data from both paper and digital documents, historical farm records, key layers of farm management software, and the backend of machinery and third-party software.

Once extracted, data is standardized and made available in one central, cloud-accessible data repository. That data then serves as the foundation upon which businesses can build much more advanced data analytics programs, enabling deeper insights into new opportunities to optimize production.

The result, the founder said, is data made FAIR: findable, accessible, interoperable, and reusable. And reusable data is where the value proposition is really made. Data becomes more valuable as it is aggregated and analyzed to identify patterns and drive predictions. There are already numerous ways to reuse and find further value in your data, including internal data analysis, external collaboration, benchmarking, machine learning, automation, digital twins, and, as the founder puts it, "a whole lot of things that are yet to come and yet to be dreamed of." In other words, the company's new platform puts growers back in control of their data and ensures that their data is secure, structured, available, and ready to drive new digital tools and applications.

"We found that we were generating a lot of data, but our clients and the producers we were working with really didn't have any place to put that data and weren't really on top of the data they had."

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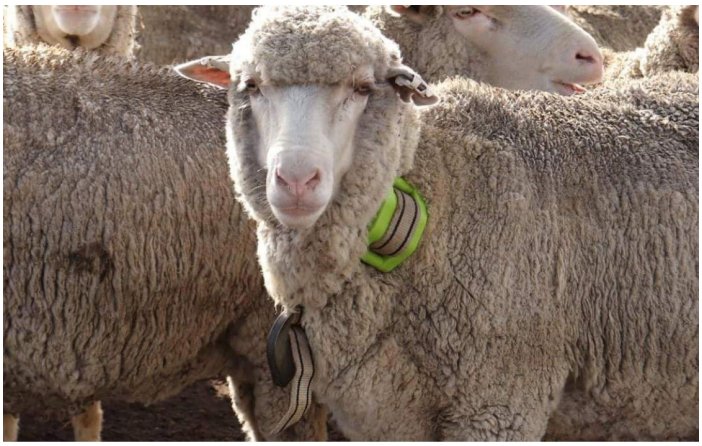
Founder and directing manager
Australian-based agtech provider

Spurring innovation

Once a customer's data is extracted, ingested, and standardized in a central data store, a new world of exciting analytics opportunities opens up. One farm, a grower partner of the agtech provider, used the capabilities of CONNECT to pioneer a new solution to curb lamb and sheep mortality. Her farm is the first in Australia to track animal welfare using IoT-enabled GPS collars – almost like a Fitbit for sheep. These collars track the movements of the farm's livestock and then send this information to CONNECT data services, where experienced livestock partners can see historical trends, identify patterns, calculate standard parameters, and raise a flag when an animal's behavior falls outside expectations. When an alert is received, the team can quickly take action to help a ewe having trouble lambing or rescue a lamb that's squeezed through a fence.

The success of this remote monitoring project has already encouraged the grower partner to make further investments in other IoT devices, like tank sensors, moisture probes, and weather stations. "I'm really excited about how this project is progressing," she said. "We can gain greater insights on the farm as to what's actually happening on a paddock-by-paddock and an enterprise basis."



IoT-enabled smart collars turn sheep into diligent data collectors.

The Australian agtech provider works with another client that runs herds of high-content Wagyu beef across four Australian states and supplies its product to 15 countries around the world. "For us," the commercial manager said, "being such a large and separated business has made collecting our data quite difficult," and that is what has made the new data platform so appealing. CONNECT data services enables users to collect and store raw data in its original fidelity, along with metadata and data context, to make industrial data easy for non-experts to understand. It also enables users to engage their extended network of collaborators with secure, scalable data sharing, which has significantly reduced a few of the cattle company's headaches. "We use a number of suppliers across the process chain," the commercial manager said, "which all supply different amounts of information to our business in different formats. That's why we wanted to join this project – to be able to consolidate all of that information." Now, with one database accessible across the enterprise, the cattle company has massively improved the way it performs analysis on its business. Today, its Wagyu herd numbers 45,000 heads, but it plans to grow that count to 100,000.

Adding value to the value chain

The scalable data-sharing capabilities of CONNECT in the cloud enhance collaboration within an organization by ensuring that all team members, wherever they are located, are working from the same well of standardized information. In the same way, CONNECT can also enhance collaboration on a larger, multi-business scale, up and down the supply chain. Using this capability, the agtech provider's platform can turn what the founder calls "the mosaic of an agricultural landscape" into a secure, data-sharing community. Private and corporate growers, processors, distributors, retailers, researchers, and consultants can all control which specific data streams they share with which specific partners in their business ecosystems. The result is a holistic view of the entire value chain from farm to fork. And, because all these shared data sets live in a shared cloud community, that means community members don't have to copy and send data sets to all their various data-sharing partners.

"The data enhances the product value," he said, "as data about that product is shared up the value chain, creating a feedback loop of information about performance." This bird's-eye view of a multi-business enterprise enables the data community members to pinpoint opportunities to improve efficiency in the value chain, adjust operations to maximize product value, and collaborate on ambitious multi-business projects.

"The control and ownership I now have has improved my ability to use the data and gives me the confidence to implement additional technologies, knowing that I will be able to gain further insights into our operations and facilitate my own research, ideas, and project."

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Farm owner