



Agriculture Analytics enhances decision-making for a large farming business

The Challenges

A long-established farming and rural property business needed a more efficient approach to agricultural analytics. The change involved moving siloed data maintained across different software into a single reporting platform. The client faced a number of challenges:

- **Multi-level detail reporting** – As the various stakeholders – growers, operators, farm managers, and senior management – use different parts of the information gathered from the farm, reports need to include varying levels of detail. Maintaining multiple versions of manually curated reports to support each role is laborious.
- **Data Accessibility** – Expecting farmers and operators to navigate multiple applications to retrieve data is not only inefficient but can also increase overall costs due to multiple user access needs.
- **Data Consolidation** – The task of combining data exports from various software is labour-intensive and impractical for daily operations.
- **Real-Time Access to Information** – Stakeholders – who are not always physically present on the farm – need to be able to make informed decisions based on direct and easy access to the latest farm updates.
- **Historical Data Analysis** – Maintaining granular, historical detail is crucial to assessing the various factors (such as, but not limited to, weather conditions) relating to both successful and disappointing yields.
- **Data Reliability** – Data managed through traditional methods such as Excel spreadsheets is susceptible to manual error.

AT A GLANCE



LOCATION
UNITED
KINGDOM



PRODUCTS
POWER BI, PENTAHO,
GOOGLE BIGQUERY,
POWER AUTOMATE

CHALLENGES

- Siloed data, with no Single Source of Truth
- Multi-level versions of manual reporting, leading to diminished productivity
- No real-time access to data that would enable informed decision-making
- The need to ensure access to granular data
- Lack of data accuracy, due to a traditional approach to data management and reporting
- Increased cost due to multiple user accounts to access data from multiple software

HIGHLIGHTS

- Siloed data, with no Single Source of Truth
- Access to data on-the-go
- Role-based data access for confidentiality and security
- Automated reporting
- Trend Analysis for forecasts and planning

The Approach

It was immediately clear that tailored rather than universal solutions to the challenges would be essential, given that what would serve one farm might be inadequate for another. We also wanted to devise tools that would be cost-effective to set up and run, easy to maintain, and scalable.



Creating a Data Warehouse

We created ETL processes (Extract, Transform and Load), which automatically gather data from different sources and load them into a single data warehouse. This central information repository acts as an SST (a Single Source of Truth).

Analyzing the data present in an integrated data-store

Power BI is a data analysis and visualization software which easily connects to a variety of databases and applications. By turning data into clear reports and dashboards, it offers insights which support business decision-making.

Removing manual intervention in reporting - Aware

of the need for regularly updated data, as well as the considerable challenge of manually exporting data and updating reports in Excel, we automated and scheduled data refreshes. We also used Power Automate to set up and send emails based on data alerts to the appropriate users.

Business Outcomes



Single Source of Truth and role-based access

The client now uses Power BI reports to collate data from a range of applications. This one-stop solution for data access and analysis saves time and increases efficiency. We also tailored Power BI workspaces to offer role-specific insights; this meant that information distribution was optimised without compromising control.



On-the-go data access

Whereas before, growers needed to liaise with the main office or with farm managers to access inventory details, they can now view real-time stock reports directly on their phones. Productivity and planning have been enhanced.



Automated and scheduled reports

Old-fashioned manual report creation has now been replaced by automated reporting, saving both time and effort. This new system provides managers with ready-to-use data for meetings, enabling informed decision-making that doesn't rely on the day-to-day activities of farm managers.



Access to historic data

the trend analysis gathered from historical data empowers agronomists to improve their forecasting and planning. Consolidated and accessible data is now available at the click of a button.