A new blueprint for developing big data systems in Australian agriculture will fast-track the creation of better industry tools that support on-farm decision making and deliver profit, according to researchers with the Accelerating Precision Agriculture to Decision Agriculture (P2D) project.

Project partner, the Data to Decisions CRC, says the blueprint will provide a best-practice guide for using agricultural data at scale, to make existing and future analytical, advisory and information tools far more effective.

“Our agriculture industry has huge potential to super charge existing investments in tools and statistical models and create new decision support tools through the application of big data analytics,” said Lead Researcher Andrew Skinner.

“An analytical tool is only as good as the data it’s got to work with. The key to success is making sure it can effectively access the full range of data available, from research projects across different industries to the information gathered by trials across the country and contemporary market analysis.

“If you feed the tool with the right volume and variety of data, you are more likely to get a meaningful outcome and one far more likely to help increase profit margins,” said Mr Skinner.

As part of the P2D project, the Data to Decisions CRC is developing a Big Data Reference Architecture for use by all 15 Rural Development Corporations (RDCs) participating in the project.

The Reference Architecture will help RDCs to design appropriate big data systems that address industry needs by using common language and approaches for widespread access and application. It will also provide techniques that the RDCs can use when working with suppliers of big data solutions.
“In simple terms, it will tell us how to plug all the bits together and what all the elements might need to be.

“This includes considerations for working with data sources and the data rules around access and sharing the information so that everyone’s rights and privacy are properly protected,” said Mr Skinner.

He says most RDCs are starting to explore or progress big data projects for their industry and the availability of the Reference Architecture - by early next year - will allow them to continue those projects with a common level of clarity and confidence.

“Most importantly, it means projects will be developed in a way that delivers the best possible value to the individual producer, especially those working in mixed production farming systems,” said Mr Skinner.

“I don’t want to get ahead of ourselves, but by providing better insights into business decisions for just about every aspect of production, there’s potential to have a huge impact on business success.”

“If better decision-making can mean reduced input costs, improved capacity to control yield or quality impediments, and an ability to produce a product that meets market requirements – all at the same time – imagine how much more profitable Australian farming could be.”

Mr Skinner said the Big Data Reference Architecture could eventually be expanded to become beneficial to other stakeholders and their ability to deliver the best outcomes for the industry, from technology providers to large farming enterprises that need to develop their own big data systems.

The P2D project is examining all aspects of big data use to give farmers the confidence, legal guidance and tools they need to access data in a way that improves farm practices and increases profits.

It is due to deliver its findings, as well as practical tools and outputs for farmers, at the end of the year.

The project is led by the Cotton Research and Development Corporation and is jointly funded by the Department of Agriculture and Water Resources Rural R&D For Profit Programme and all 15 Rural Development Corporations, contributing more than $3.5 million over 18 months. It also involves research support from three universities, CSIRO Data 61, the Australian Farm Institute and the Data to Decisions CRC.

Growers can learn more about the project by visiting the website - www.farminstitute.org.au/P2Dproject.

Media Note: The Data to Decisions CRC is part of the Cooperative Research Centres programme, which is an Australian Government initiative.

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Research Partners

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