WHITEPAPER

How the Agriculture Industry Can Benefit From **Working in the Cloud**

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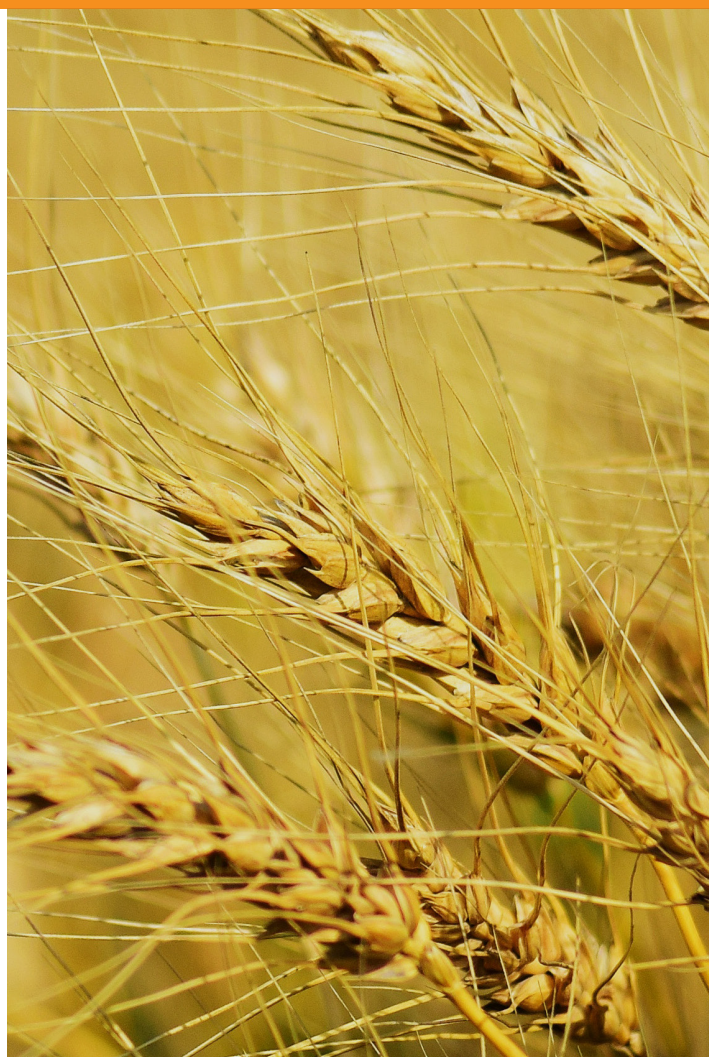
> **The utilisation of cloud-based technologies across numerous industries has become increasingly popular, allowing managers to create new efficiencies and increase overall productivity, visibility and control.**

Working in the cloud allows supply chain managers to identify potential obstacles and proactively take the necessary steps to prevent any deviation from standard operating procedures, minimising loss and mitigating risk.

Within the agriculture industry, the introduction of this technology will allow for more accurate predictive planning and execution. The employment of cloud-based technologies empowers organisations to adapt to shifting marketing trends and sustainably improve production in the face of rapidly growing demand. By modernising the supply chain and building upon current processes with cloud-based tools, organisations within the agriculture industry are able to monitor, control and optimise their trade execution and operational activities in real-time.



Agile Technology for Market Complexities

Achieving new competencies in agility and technology will be critical for suppliers to successfully align production and shipping capabilities with the growing demands of the market.

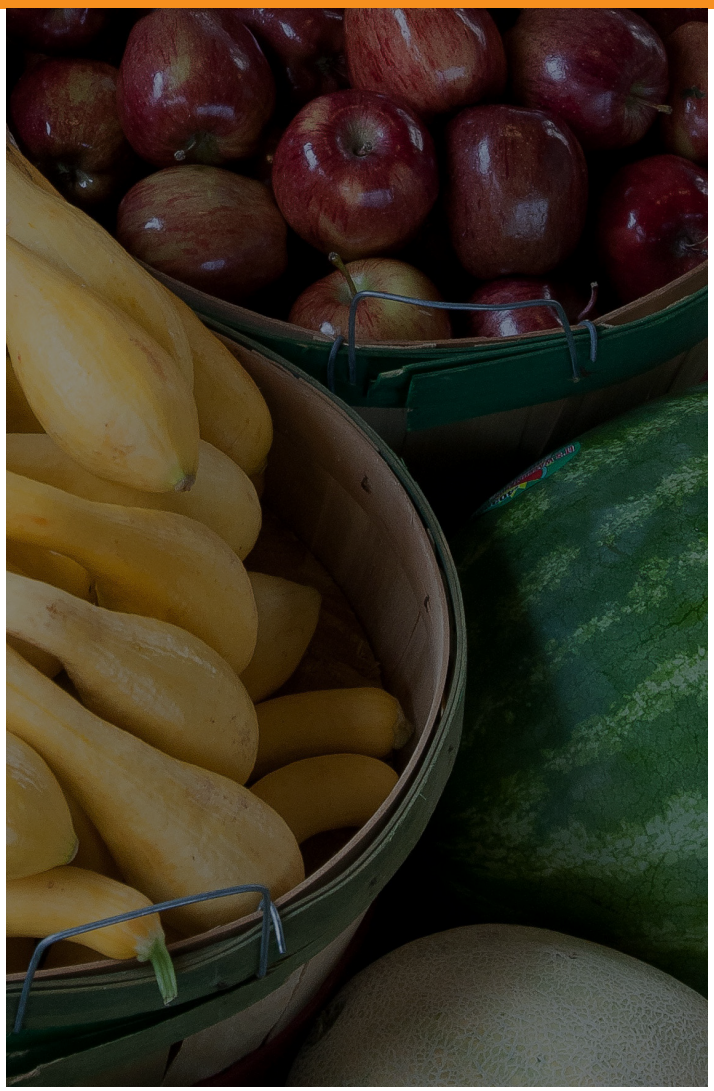
> As predicted by the Food and Agriculture Organisation of the United Nations, **the world's population will reach 9.1 billion by 2050, requiring at least a 70% increase in the total availability of food.**[1]

The Harvard Business Review writes that heightened ecological concerns will make it difficult to expand production utilising traditional methods, so suppliers must find ways to innovate across multiple sourcing markets to survive. [2]

While the full ramifications of climate change may not be understood for years to come, the impact on the supply chain has already been recently demonstrated. Researchers from the University of California reported that concurrent droughts and heat exacerbated by climate change has led to significant fluctuations in crop yields of barley across Australia, Asia, Europe and North America.[3] These unexpected changes have resulted in new challenges for those managing positions and physical flows.

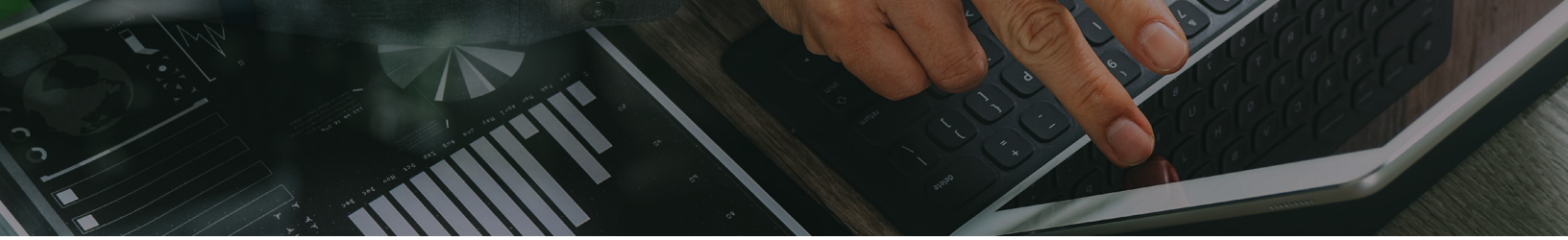
As yield changes impact global trade, the future of the agricultural supply chain continues to shift amid the growth of emerging markets and increasingly complex international relations.

> **McKinsey Global Institute has found that overall consumption in these countries is up 50% from 2007.** This growth as well as the increasing power of the supply chain in China and similar markets require the application of new, next-generation processes to improve logistics and production. [4]



More collaborative business partnerships between supply chain actors will promote a seamless flow of goods and data in order to aid trade in the face of high demand and regulatory limitations.

To succeed in today's digital market, organisations must address the challenges of a growing population in addition to the impact of climate change and its resulting effect on production. The utilisation of new technologies is the only way to achieve the necessary alignment of information across all actors within the supply chain, making agility and flexibility invaluable core competencies.



Introducing the Cloud to the Supply Chain

> **The cloud, a commonly used phrase for cloud computing technology, refers to software and services that run on the Internet instead of via local devices.**

An increasing proportion of organisations across all industries have begun to introduce cloud services to their operations — Flexera has found 91% of all businesses have utilised a public, private or hybrid system to promote accessibility and collaboration across their supply chains. [5] By adopting the technology, companies are able to gain a competitive edge by reducing their overall costs and attaining new efficiencies. Cloud-enabled organisations are able to dynamically adjust business activities as needed in response to unexpected interruptions in operations or fluctuations within the market.

The application of cloud technology has never been as important as it is today. COVID-19 continues to impact supply chains, and not only do businesses need strong internal processes to support a distributed workforce, but they will also need the right equipment and software management systems to enable remote trade.

Creating a Digital Twin

By utilising cloud-based technology, agricultural suppliers can create a virtual supply chain replica that allows for the alignment of information across all related parties within the system. This developing technology, commonly referred to as the “digital twin,” allows managers to attain end-to-end visibility, equipping them with powerful insights to make real-time decisions as the twin will process the potential for any interruption to operations. Boston Consulting Group found that the creation of digital twins give companies three key advantages over their competitors: transparency, improved predictive capabilities and full system control. [6] By identifying risks earlier than ever before, organisations can instead create mitigation action plans rather than crisis management strategies.

Compromises to the supply chain can become costly, especially within more complex organisations, and will quickly add up over time if they are not addressed. By sacrificing valuable time and resources to navigating unpredicted events including cyberattacks, trade disputes, natural disasters or pandemics, the McKinsey Global Institute has found companies can estimate that major disruptions to the supply chain will cost them at least half a year's worth of profits — if not more. [7] However, organisations that create their own digital twins will be able accurately predict and plan for these potential challenges before anything ever goes wrong in reality, preventing them from experiencing setbacks such as excess inventory or lost production time.

The clarity provided by these virtual tools allows supply chain managers to anticipate otherwise unforeseen risks, which Gartner predicts will lead to a 10% increase in overall productivity by 2021. [8] Decision-makers within the supply chain who are empowered by tools such as digital twins can combine their own experience and expertise with data-driven insights to minimise volatility and uncertainty in production.

Most organisations lack the internal infrastructure to support this emerging capability, or are employing outdated solutions that do not adequately support new processes. Companies must be able to capture critical supply chain data, identifying any gaps in the current alignment of information. Employing a cloud service solution will allow for the management and creation of these powerful digital twins, empowering international traders to freely share data across their supply chain.

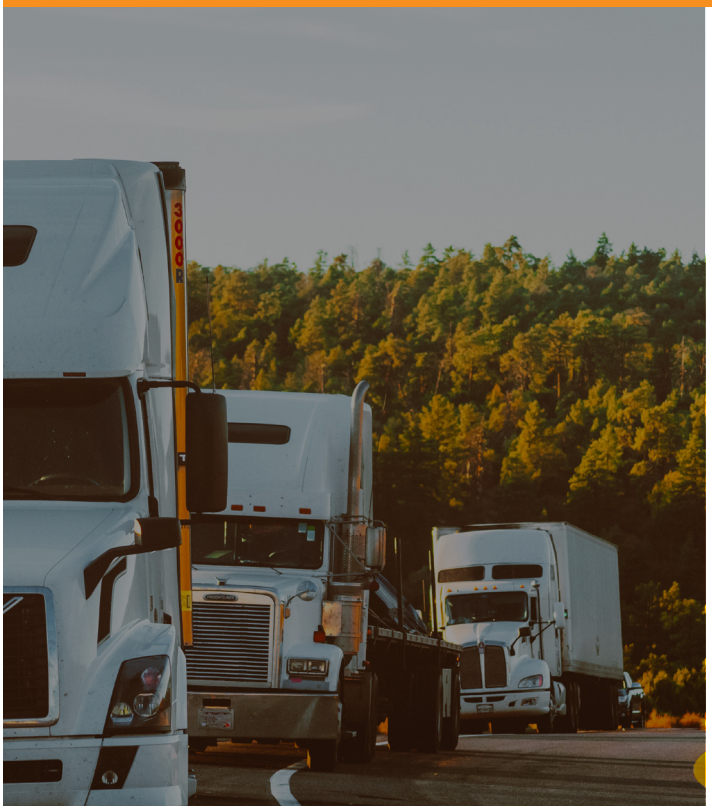
Partnering with a Cloud Service Provider

Integrating an organisation's processes with the cloud can reduce costs and improve productivity. However, many organisations are hesitant to adopt the technology as an in-house capability due to the significant cost of infrastructure in addition to the potential risk to their data security and lack of expertise. The potential challenges of implementing the cloud, such as the need for data migration and ongoing management of the system, can seem overwhelming to IT teams that lack prior experience or for larger organisations managing a complex supply chain. Partnering with an outside firm allows companies of all sizes to enjoy the benefits the cloud can bring to their supply chain without exposing themselves to any of the risks.

The Journal of Food Engineering emphasises the importance of cloud-based technology specifically within the agriculture industry, as suppliers must account for unique challenges including highly perishable products, unpredictable supply variations and stringent food safety and sustainability requirements. [9] A leader within agriculture trade management, export systems and process optimisation, BSM Global offers an expansive suite of solutions to help clients ranging in size from small and medium enterprises to global leaders, and can support them in mitigating risk, adding value and enabling operational agility.

By utilising services such as container packing, which includes seals, weights and dating, agricultural suppliers are able to mitigate the potential for damage to inventory and the risk of other errors during transport, alleviating one primary source of food waste along the supply chain. Additionally, supply chain managers are able to easily track crucial shipment information including the vessel, reference number, receivals and depot to monitor inventory throughout its journey through the chain.

> **“Agriculture companies are able to use BSM’s cloud-based system to seamlessly exchange, create, interpret and share end-to-end data across their global supply chain.**



While food safety and sustainability requirements are constantly evolving and can vary within markets, BSM offers assistance for clients as it relates to adhering to international government regulations as well as in attaining phytosanitary certificates and ensuring any required inspections or tests can be conducted efficiently. Every individual organisation has its unique challenges that must be addressed when implementing cloud-based technologies, however, partnering with a global leader such as BSM can help to ease the process and allow companies to take advantage of all the potential benefits associated with the cloud.

The Future of the Agriculture Industry and the Cloud

Organisations within the agricultural sector and their supply chain managers must begin to innovate their trade and distribution processes to address evolving market trends. The current level of production within the agriculture industry will not be able to support the rise in demand for food availability as a result of the growing global population. To overcome this challenge, the industry must address widespread yield fluctuations caused by global warming by promoting more agile trade processes. By adopting and integrating cloud-based technologies to their current systems, global traders will be able to resolve these issues in addition to improving their overall efficiency, visibility and increasing profits in the long-term.

Each organisation should approach cloud adoption uniquely. The technology must be built around their individual processes to navigate industry-wide challenges including a remote workforce and complex trade dynamics. Cloud enabled documentation and operations solutions will capture invaluable data and insights, resulting in an automated data exchange, reducing high volumes of labor hours and minimising inefficiencies. Partnering with providers such as BSM Global will allow companies to achieve greater transparency and control, streamline their export activity and easily account for and manage compliance needs.

Drive process improvement by utilising specialised solutions tailored to your unique supply chain. **Get in touch today or request a web presentation to learn more about how BSM can optimise your agriculture global trade and system processes.**

1. http://www.fao.org/3/bt300e/BT300E.pdf
2. https://hbr.org/2016/04/global-demand-for-food-is-rising-can-we-meet-it#:~:text=This%20growth%2C%20along%20with%20rising,we%20have%20not%20seen%20before.
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