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# Full visibility: A fresh look at your supply chain

How some of the world's biggest names in food production  
take control of their supply chains — and transform their business

Food manufacturing and complexity go hand in hand. With a host of variables coming into play — supply uncertainty, volatile weather conditions, evolving standards of food safety around the world — there's no telling where the next disruption will come from.

Despite the challenges, sales and demand are showing no signs of slowing down. In the United States, cattle inventory at the beginning of 2017 stood at approximately 93.6 million heads.<sup>1</sup> According to the United Nations, food production would need to grow by as much as 70% from 2010 to 2050<sup>2</sup> to meet the needs of 9.7 billion people by the end of that timeframe.<sup>3</sup>

The food and beverage (F&B) industry presents near-limitless opportunities for forward-thinking players, and manufacturers must understand their business needs to prepare for industry growth.

For those willing to heed the challenge, the returns are worth the complexity. JBS reported 2016 pre-tax earnings of US\$3.65 billion, a net revenue of US\$54.99 billion and a net income of US\$121.4 billion.<sup>4</sup> The global organic F&B market is now projected to reach US\$3.28 billion by 2022, bolstered by a compound annual growth rate of 16.4% between now and 2022.<sup>5</sup>

[1] United States and Canadian Cattle and Sheep (United States Department of Agriculture)

[2] 2017 Trends in Food Processing Operations  
(The Association for Packaging and Processing Technologies)

[3] World population projected to reach 9.7 billion by 2050  
(United Nations Department of Economic and Social Affairs)

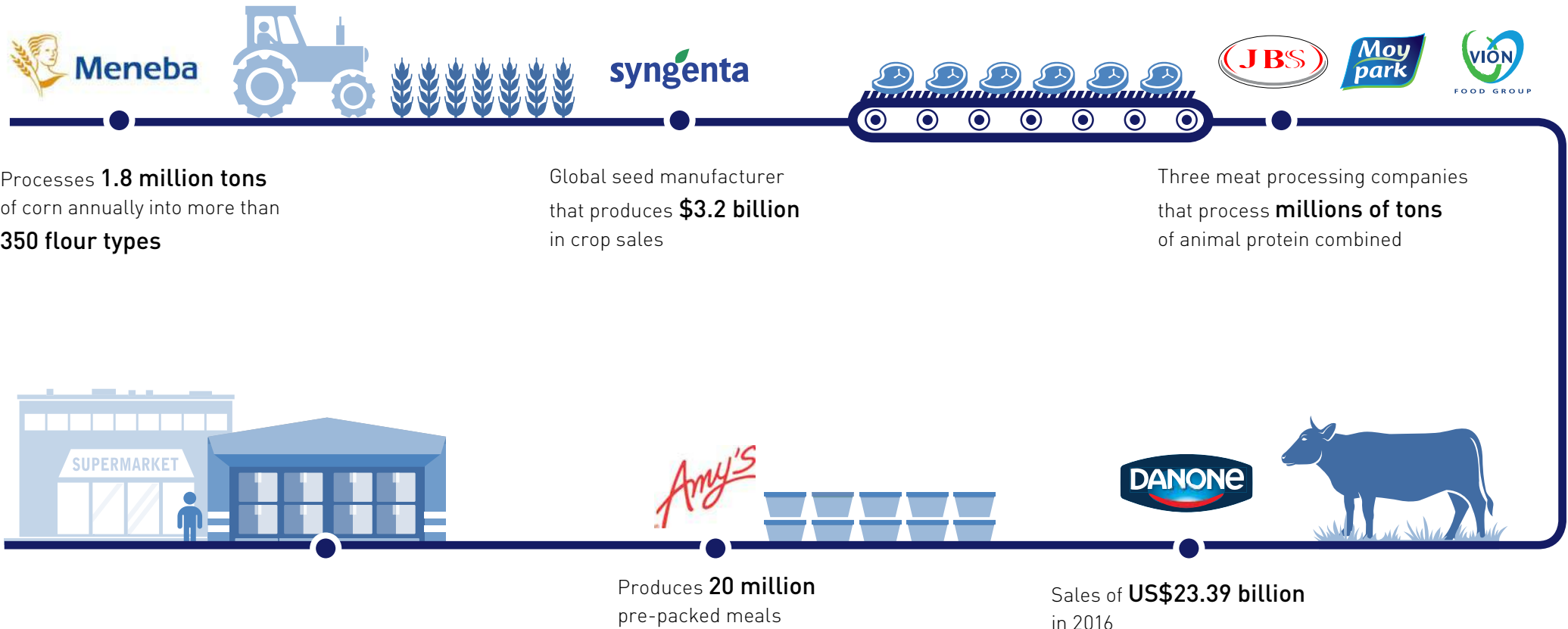
[4] JBS' global footprint pays off in solid full-year financial result (Beef Central)

[5] Organic Food and Beverages Market by Organic Foods and Organic Beverages  
- Global Opportunity Analysis and Industry Forecast, 2014-2022 (Allied Market Research)



# Optimizing your entire supply chain: Great business results with one planning software

Here are some of the leading names that are choosing end-to-end supply chain optimization



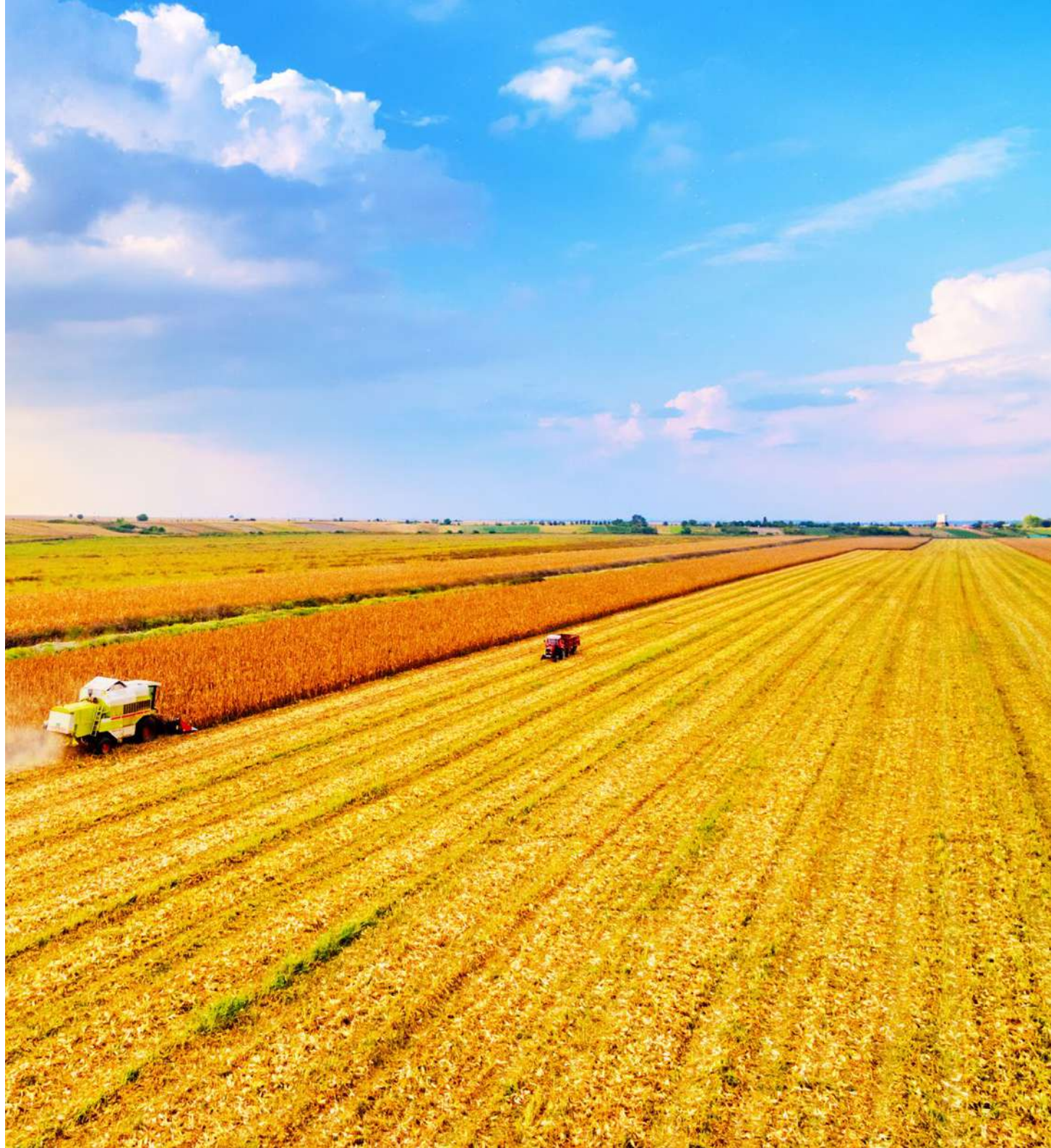
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## Meneba: High quality ingredients, unlimited product combinations

Meneba is one of the largest corn processing companies in Europe. It is the brand of choice for Europe's bakers and food producers. The company develops, produces and markets raw materials for food and bakery products through a production pipeline that processes **1.8 million tons of corn annually.**

There are substantial differences in the properties and varieties of corn. Water absorption, suitability for bread baking, protein content and protein quality can differ significantly. These properties impact the quality of the end product — the blends.

At Meneba's plants, corn is blended and milled into a semi-finished product. Meneba distinguishes between several dozen semi-finished products. After that, it blends these semi-finished products into more than **350 different flour types.**



Spreadsheets weren't enough. Meneba needed a more powerful and flexible system, able to plan the production of the best blends at the lowest possible cost price. The new system had to adhere to specific and stringent quality aspects.

After a lengthy evaluation process, the answer to these requirements was clear: Quintiq.

With Quintiq's help, Meneba sped up the decision-making process significantly. Planners now have the ability to quickly determine the lowest cost price across the board and schedule blend production accordingly. The company enjoys better control over the overall production process through a tight integration of supply chain planning, optimization and ERP.

### The Quintiq advantage:

- Seamless integration with Meneba's existing enterprise resource planning (ERP) system
- Quick calculations on the type and production of corn blends, based on variables customizable at any time
- Accountability for quality aspects, variable cost prices, raw material availability and production restrictions



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## Danone: Workforce planning and scheduling for a global production

Danone is a French multinational food-products corporation based in Paris. Founded almost a century ago, it now enjoys a strong brand presence in **over 130 markets** worldwide. It is also synonymous with fresh, high quality dairy-based products around the world.

Danone's 500-strong workforce in Belgium is responsible for producing **up to 5.5 million bottles per day**. Unfortunately, its complex supply chain was handled by an inefficient workforce planning system.

Danone needed something better — a solution that could handle not only its current production process, but scale up as its operations expand in complexity. The solution needed to understand the complex routing systems of the business, and plan the workforce according to those constraints.



Planning with Quintiq enabled Danone to integrate all the unique business rules and requirements into the generation of work rosters. This included rules related to line ownership, fair holiday, planning and collective labor agreements. Planning for full-time employees and interim workers in different parts of the supply chain — production, maintenance, technical and logistical support — could now be conducted through a single system.

Danone also increased the overall productivity of its production line by seamlessly integrating the Quintiq solution with existing systems related to human resource (HR) administration and production planning. This provided planners with a more detailed overview of the production process.

Danone now enjoys full transparency across all planning horizons. Planners can create specialized work rosters for all its employees that are both skills-based and KPI-focused. The closed-loop integration between HR and production planning systems improved the efficiency and quality of personnel planning, which in turn, increased overall employee satisfaction.



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## Amy's Kitchen: Intricate scheduling for a deliciously complex supply chain

Amy's Kitchen is a producer of pre-packaged organic and non-GMO meals, offering **250 types** of food products to consumers all over the world. With a multitude of packaging options for different countries, the number almost doubles.

**330 suppliers** provide Amy's Kitchen with **1,800 stock keeping units** (SKUs) that span six categories of raw materials. In the United States alone, three production plants deliver products to five regional distribution centers. Sourcing ingredients is difficult, especially with agricultural items that need to be planned up to 18 months ahead.

Amy's Kitchen strives to offer full-time employment to all its workers. Unfortunately, this challenged the company's scheduling capabilities — daily work rosters meant choosing the right combination of items that would add up to the total number of people needed. Each day had to be scheduled within 4% of its total labor pool to ensure full-time employment.





Amy's Kitchen's ERP system, based on Oracle EBS, was problematic. Production schedules were first created with spreadsheets, then manually entered into the system. Everything that could go wrong, did. Recipes were misinterpreted, production days were mixed up and material quantities were incorrect. Planners had to manually check everything they were given.

Quintiq helped solve the food producer's planning puzzle in two phases.

#### Phase 1:

Schedule **1,000** employees across **2,000** production routes with **36,000** pre-defined positions and **400** skillsets

#### Phase 2:

Forecast and generate monthly production plans up to 36 months in advance

Amy's Kitchen is well on its way to optimized production efficiency, improved material planning and overall healthier stock levels. From a fill rate of 85% two years ago, its inventory is now at an impressive 96%. Response times have improved significantly and planners can forecast future labor more accurately. Amy's Kitchen is now able to plan for the right number of employees and uphold its promise of a stable future for all.



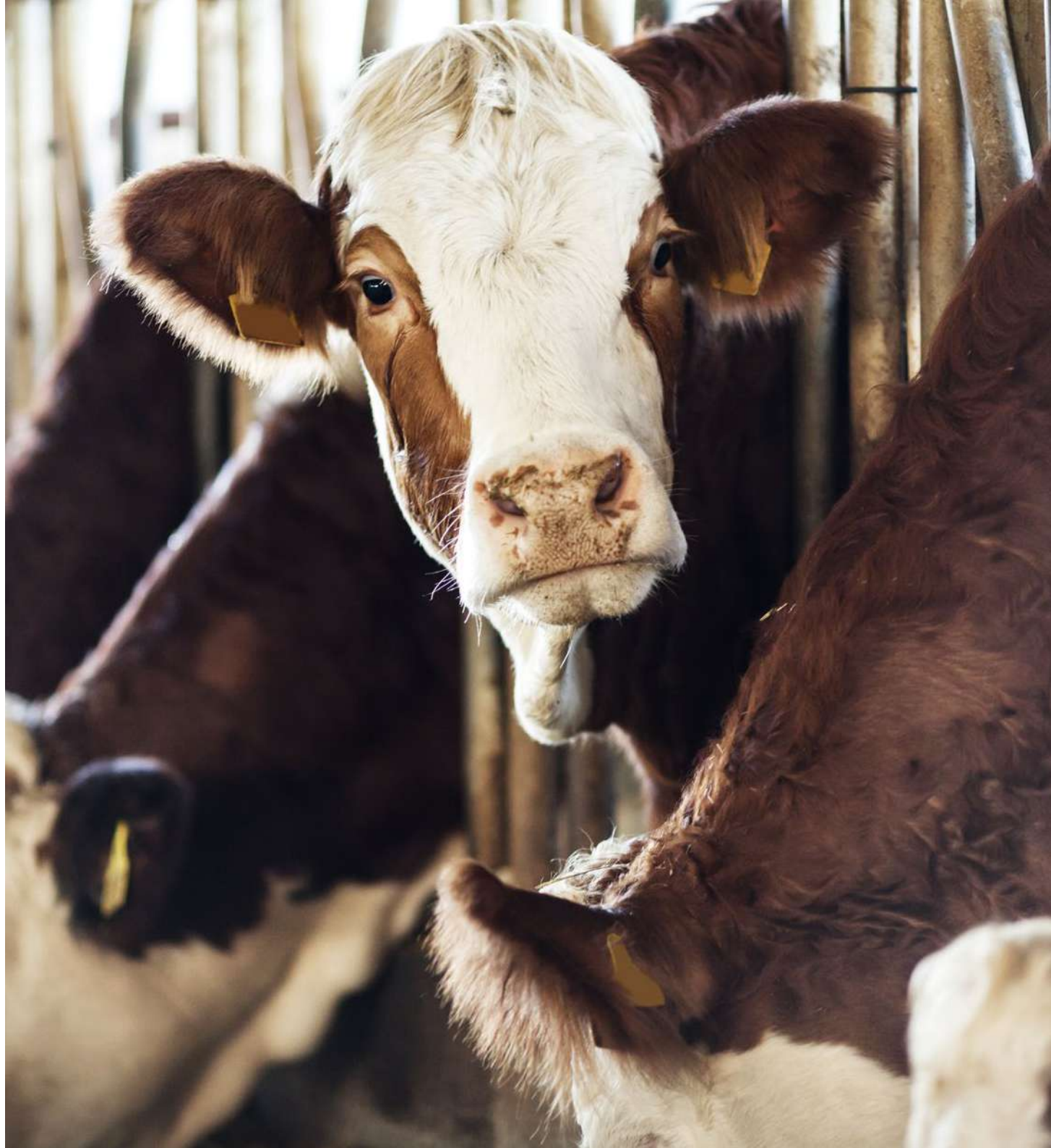
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## JBS: Full visibility in protein disassembly

JBS is the largest animal protein processor in the world. Its global production platform is the foundation for a variety of products including food, leather, pet products and biodiesel.

The JBS plant in Greeley, Colorado processes approximately **100 million pounds** of meat annually. The company had to take into account the varying brands under which it sold its meat, along with conversions, grades, product age and other product variables. However, real-time availability of its inventory was simply not possible due to the complexity of the disassembly process. As a result, JBS had almost zero visibility of its planning horizon. It was unable to come up with a standardized order placement process or accurate order delivery as it couldn't predict the availability and quantity of every SKU in every location.

JBS needed a scheduling solution that would provide flexibility to plan all proteins and processes in the Greeley plant. In addition to providing real-time availability of both the assembly and disassembly processes, the solution had to seamlessly integrate with the company's existing systems architecture.



Planners needed to have full accountability of all the animals handled, while keeping track of thousands of SKUs and millions of records. Having complete visibility across the entire production process would enable JBS to guarantee available-to-promise (ATP) and capable-to-promise (CTP) to its customers.

And that starts with the pig... and the cow.

JBS' search ended with Quintiq. It could handle complex fabrication processes and fast changes in big data, but it went a step further to offer additional capabilities around logistics and workforce within an integrated scheduling system. The 100%-fit solution was developed based on an advanced understanding of meat processing and its challenges.

JBS now had an advantage it never did before: Real-time access to product availability. Quintiq showed a complete picture of how all the inputs interact with each other. Planners now had end-to-end visibility of the current operational reality, and full control to change the outcome through manual and automated means. By comparing KPIs across different scenarios, planners were able to consistently make the best possible choice regarding the desired production mix.

Real-time visibility meant that JBS could improve the speed of order confirmation and standardize the order placement process. Manual planning has now been all but eliminated, save for the production of boxed beef. Additionally, two legacy scheduling systems have been completely retired. JBS now has full real-time visibility of available-to-promise quantities for all its customers.

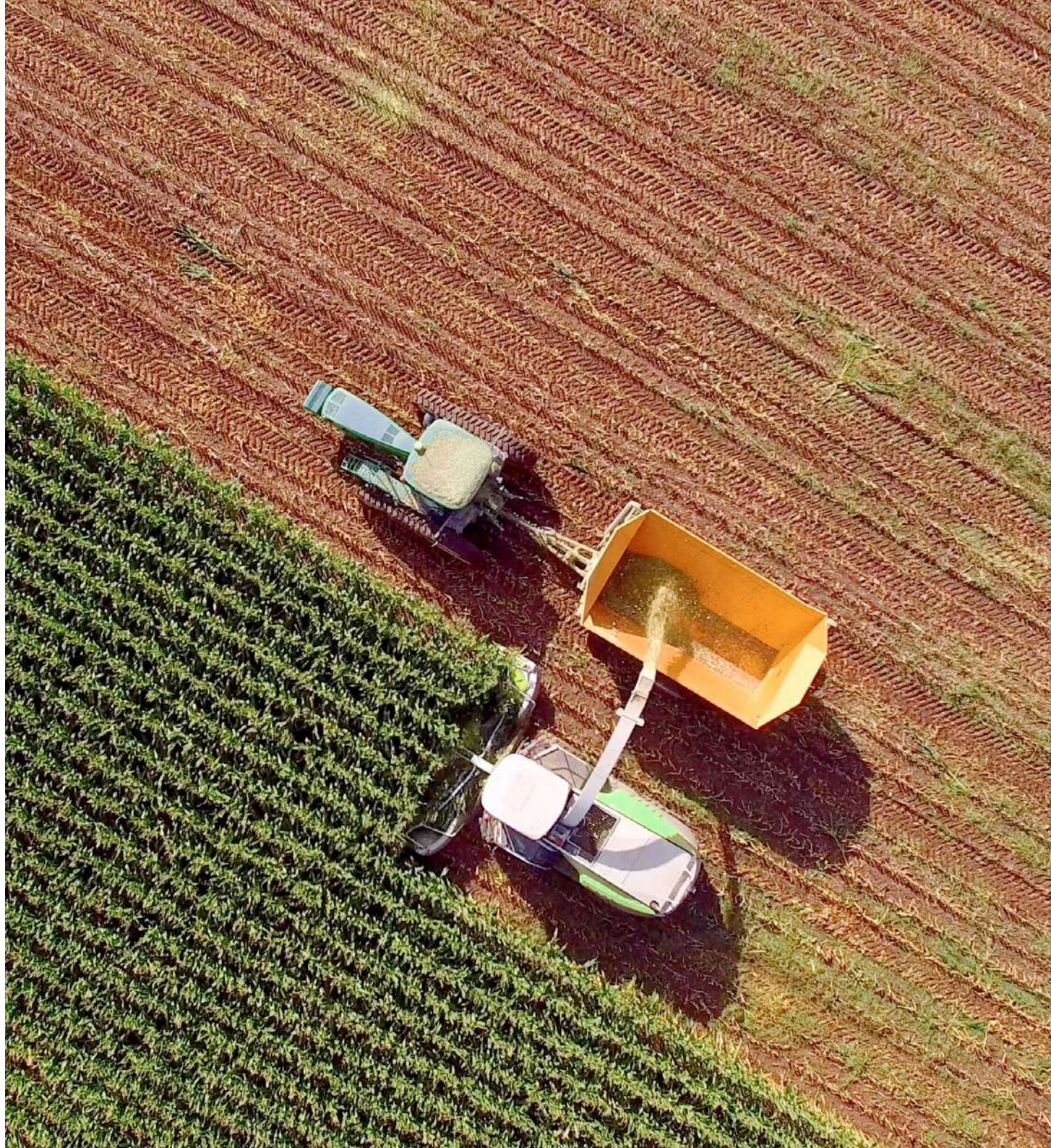


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## Deliver value to your customers and transform the food industry

F&B manufacturers strive to improve their supply chains but find it difficult to execute their strategies. Quintiq delivers value above and beyond its competitors, allowing customers to scale easily, grow quickly and update their models as their business evolves with the market trends.

**Contact us** for a live demo and discover firsthand how Quintiq can enable end-to-end optimization of your entire supply chain.





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