



David Beurle, CEO, Future iQ - April 2021

Beef to Beans – the Future of Agriculture? ...



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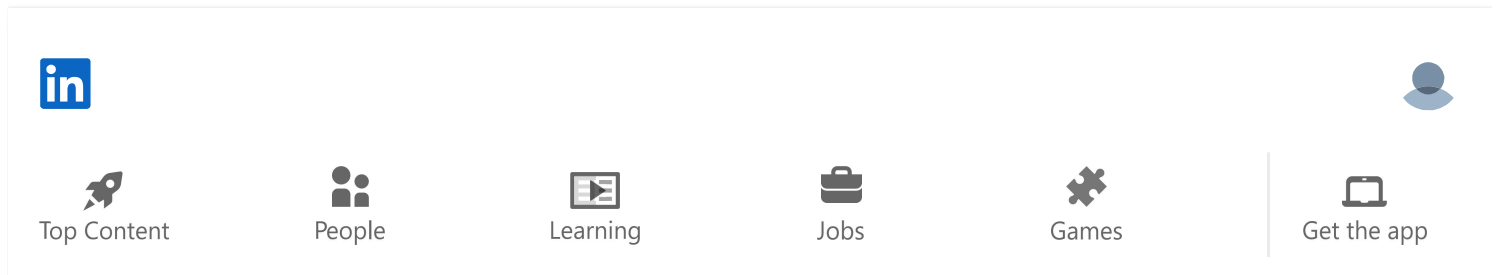
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There is no doubt that agriculture is undergoing a massive transformation. The waves of technology being generated by Industry 4.0 are beginning to bite deep into the agricultural and food systems, whether it is automation, robotics, predictive analytics or new cyberinformatics tools.

This is transforming agriculture and our food production systems.

Technology has always been reshaping agriculture, from the widespread adoption of tractors in the early 20th century; to breakthroughs created by plant breeding; to the

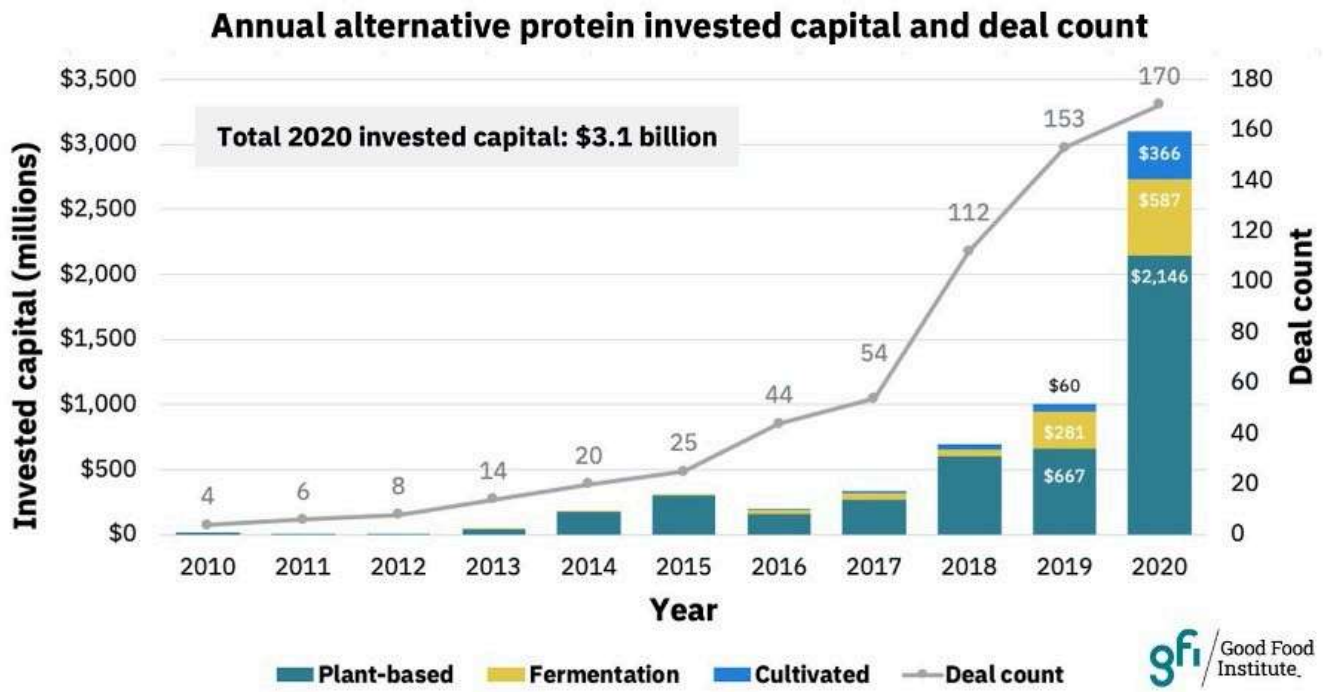
relatively more recent deployment of technology in precision agriculture. These all brought massive productivity gains, and widespread benefits.



potential. ([\https://www.agritecture.com/blog/2021/4/5/industry-giant-ikea-switches-gears-to-vertical-farming\](https://www.agritecture.com/blog/2021/4/5/industry-giant-ikea-switches-gears-to-vertical-farming))\

However, at Future iQ we think that plant-based proteins and the trend in meat alternatives will be a much more significant disruption in the food industry. For a number of years, we have been flagging the importance of rapidly evolving consumer sentiment that is driving a game-changing shift to plant-based proteins. This shift to plant-based diets and proteins is being significantly influenced by food conscious female millennials as well as committed Generation X vegetarians moving to a vegan/plant-based diet. We predicted the rise in plant-based or insect protein in our 2016 foresight paper 'The Future of Food'. <https://future-iq.com/foresight-research/the-future-of-food/>

This prediction has been proven accurate as food industry multi-nationals are now venturing into producing plant-based products or investing into plant-based protein and meat free alternatives. This investment has been tracked by The Good Food Institute, where they have plotted exponential growth over the last few years, in both the amount of money being invested, and the number of deals being made. Some might argue that these numbers are still relatively small compared to the overall protein industry. But, from small things, big things grow.



Source: <https://gfi.org/press/record-3-1-billion-invested-in-alt-proteins-in-2020-3x-the-capital-invested-in-2019/>

The spectacular success of new products such as the Beyond Burger, (produced by Beyond Meat) and the Impossible Burger (produced by Impossible Foods) has made meat replacement products a reality. These iconic products join a host of other inventive plant-based protein 'meat-like' products. This food revolution is being driven by changing consumer demands, breakthroughs in food science, impacts of mass urbanization and other key major catalysts of change.

But most importantly, a key driver is the rapidly declining relative cost of alternative proteins, with a forecast to reach parity with animal-based proteins between the early 2020's and 2030's. This has recently been documented by the Boston Consulting Group, in their March 24, 2021 report 'Food for Thought: The Protein Transformation'.

Source: <https://www.bcg.com/en-us/publications/2021/the-benefits-of-plant-based-meats>

In addition, we are forecasting significant disruption in the food industry as human health concerns amplify, and as the impacts of climate change bite into the food production capacity of the world. There is a growing disconnect between where food

can be grown, and where it will be consumed. Food production potential is forecast to decline in areas where global population growth is greatest; and where there is already significant hunger. More than ever, the future of our agriculture and food systems is critical. The rapidly growing global population in Asia and Africa, coupled with the impacts of climate change, are reshaping the global food story.

Rapid and transformational change is often hard to absorb. However, there are some key agricultural regions in the world that are uniquely positioned to benefit. The upper Midwest of the United States is one such region; with its incredibly productive landscapes, relative abundance of fresh water, and a technology driven ecosystem of farmers, research institutions and industry bodies.

The future will be built on innovative ways to expand food supply, and a strong focus on understanding the human and environmental health implications of our agricultural production systems. We are on the cusp of transformational change. Our best choice is to lean into this change, embrace it, and find new opportunities. The future of agriculture might well be exemplified by Beef to Beans.



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