

# Case Study

## Machine helps get sprouts to market faster

British consortium develop UK's first Brussel sprout processing machine, saving hundreds of food miles



**Situation:** Brussel sprout grower losing market share

**Challenge:** Processing was labour intensive and costly

**Requirement:** A machine to clean and trim sprouts "ready to cook"

**Solution:** The Brussel sprout processing machine

**Benefits:** "Ready to cook" Brussel sprouts in supermarkets quicker

Holme Farm is home to some of Britain's best vegetables. They harvest, grade, trim and package vegetable sprouts - ready for delivery the next day.

Holme Farm engaged with Patrick Eaton of bd3T, experts in developing products, processes and services, to help them improve the way they process sprouts. Patrick Eaton acted as Project Manager for a consortium of companies to work on the project, including Sapcote Engineering, CraftyTech and Food Processing Faraday - who worked in partnership with Holme Farm to design and build a highly efficient Brussel sprout processing machine. Sapcote Engineering, experts in the design and installation of bespoke engineering solutions for the food processing industry, built the machine for Holme Farm's new start company, CleanCut Ltd., established to process sprouts.

### **Challenge: Finding a more efficient way of processing Brussel sprouts**

Holme Farm grew and processed Brussel sprouts. They realised they were losing market share because their sprouts could only be processed manually. The alternative was to transport the sprouts over 800 miles to Holland for processing and back to Britain for distribution to retail stores. However, the cost in road/air miles was high. Secrecy surrounding the Dutch machine made it impossible to simply borrow the technology for a machine in the UK. This prompted British scientists to design and develop a machine that could process Brussel Sprouts for the 'ready to cook' market in the UK.

*"I was excited by the opportunity to work with a number of industry experts together to work on this challenging project, which helped to give a boost to the UK Brussel sprout industry and saved hundreds of food miles at the same time."*

**Patrick Eaton - CEO, bd3T**

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## Requirement: A machine to process Brussel sprouts

Holme Farm required a machine for the complex process of processing Brussel sprouts for the most common of variety, grades, and sizes of the vegetables. They needed a machine that would quickly and easily process the vegetables, enabling them to get the sprouts to the consumer faster. The machine, which was to be housed in a purpose built factory, needed to be able to sort, orientate and trim the sprouts so that they were "ready to cook".

Using the machine now saves 800 food miles, as the Brussel sprouts needed to be sent to the Netherlands for such processing previously. It was therefore important that the machine was effective, efficient and environmentally friendly.

## Solution: A bespoke Brussel sprout processing machine

Because of the secrecy surrounding the machine used in the Netherlands, the consortium needed to develop a totally new machine from fundamental concepts. Initially, a small prototype machine with 3 lanes was made to model the outputs. The final concept that was implemented has 12 lanes and meets the specified requirements for speed and quality output.

## Benefits: Quicker, easier and cheaper sprout processing

It is now quicker, easier and cheaper for Holme Farm to process Brussel sprouts, through CleanCut Ltd and the quality of the machine processed sprout is more consistent than those that are hand trimmed. The project is considered successful because supermarket orders are supplied with Brussel sprouts, ready prepared and bagged, for the consumer to open and cook.

Fewer people are needed to operate the machine than were needed to manually process the sprouts. Furthermore, savings have also been made on the cost and time associated with recruiting seasonal workers.

### Benefits to CleanCut Ltd and Holme Farm:

- > **Simpler and more efficient to process**
- > **Speedy delivery to market**
- > **More consistent product quality**
- > **Fewer 'food miles' wins consumer favour**
- > **Cost savings in recruitment of Seasonal Labour**

## Outcome: An agriculturally robust machine

The outcome is an agriculturally robust machine that is able to process 4,000 tons of Brussel sprouts a year without having to recruit a large seasonal labour force. The machine is also available for other agricultural food processors and farmers to use to process sprouts, helping other growers to save air miles and get a British grown product to UK consumers far quicker. The machine processes sprouts efficiently and consequently helps get the vegetables to the stores and the consumer quicker.

## About Bd3T

Bd3T works to improve business performance through technology adoption, primarily in the creation of new or developed *pucts, processes and* related services with industry and the knowledge base. Bd3T's business success *irods* due to innovative developments *that have brought regional and* international recognition. The bd3T approach is to link likeminded people together to help achieve common goals: *people that think outside-of-the-box* and work across broader, multi-disciplined borders. These collaborative efforts result in a win-win and produce valued and beneficial progress.

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*"The British Brussel sprout industry is growing. British brains helped stop the export and import of Brussel sprouts. Basically the machine works."*

**Roger Welberry - Holme Farm**

*"From the East Midlands Regional perspective it was a success story."*

**Sean Maguire - Sapcote Engineering**

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