

Robot Harvesting at Burlington Berries, Tasmania

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If you visit Burlington Berries during strawberry harvest, you will more than likely see a fleet of 16 Dogtooth robots silently picking strawberries.

Dogtooth Technologies is a technology and robotics company based in Cambridge, UK which has developed five generations of fruit picking robots and have 70 units deployed in Europe and Australia. They have been trialling their harvesting robots at Burlington Berries in Cressy, Tasmania since 2017, with a group of Gen3 robots.

This year is their fifth year at the site, and they are currently using 16 Gen4 units for this year's harvest trials. Overseeing this trial from Dogtooth is Eva Thilderkvist, who provides further detail on the robots and their activities.



Dogtooth Gen3 robot picking strawberries in polytunnel infrastructure representative of that used throughout Europe
Photo credit: Dogtooth



Dogtooth Gen3 robot picking a strawberry
Photo credit: Dogtooth



Dogtooth Robot picking strawberries in a glasshouse
Photo credit: Dogtooth

Harvest innovation in action

Eva explains that as they work, each robot progresses through a 5-step harvest process:

STEP 1

SCAN: the robot images the crop to detect ripe fruits and locate them in 3D space.

STEP 2

PICK-PATH: the robot moves around each ripe fruit finding a clear path to its stalk.

STEP 3

HARVEST: simultaneously gripping and cutting the stem of the fruit, the robot never grips the body of the fruit minimising risk of bruising.

STEP 4

INSPECTION: the fruit is lowered into an inspection chamber where it is given a 360-degree inspection to gauge fruit size and quality.

STEP 5

PACKING: graded fruit is lowered into a punnet according to its size, colour, and quality. Substandard fruit is automatically dropped into a waste container, all waste fruit is measured at this point.

Whilst picking fruit, the robots also carry out numerous other information gathering tasks which adds value to their process. This includes collecting images of the fruit which can be analysed and used for yield forecasting, a vital tool for labour management and generating marketing programs. Having this data collected remotely also frees up staff to perform other tasks such as de-leafing and plant maintenance operations.

