

// Case Study

# HayBSee Ltd

We are creating a novel robotics platform allowing large daily coverage as well as close proximity sensing and interaction for farmers.

**Bringing the revolution in agriculture to a farm near you.**

## ABOUT THE COMPANY

**CropHopper** is a new solution developed by **HayBSee Ltd** with the support of the Imperial College Drone Lab, based on the use of a UAV that can detect and directly operate to remove weed in agriculture. The current prototype is a solar re-charging, jumping drone that adopts unique computer vision to locate weeds, precisely target them with robotic arms and kills it via herbicide spraying. The machine learning capabilities embedded in CropHopper are augmented by the use of Earth Observation data that enables a higher degree of precision in identifying parts of the agriculture field that may be under stress (e.g. crop diseases, fungi, soil defects, etc.).

HayBSee

## RATIONALE FOR INTERVENTION

The Satellite Applications Catapult met CropHopper for the first time prior to a Satellite Finance Network (SFN) event in November 2016, during which a number of companies were invited to pitch, including the then concept-stage CropHopper. From that initial interaction the Business modelling team and the AgriTech Thread leads understood the potential of the company and began a discussion around the opportunities available in the space sector. HayBSee was subsequently shortlisted and invited to the pitch event organised by the UK Space Tech Angel Group.

HayBSee was the first company selected to receive a dedicated sprint as part of the UKSA regional support programme currently ongoing and delivered by the Satellite Applications Catapult. The company needed a focus to better define its business model/service model and channel to market. This work was aligned with their fundraising effort.

## SPRINT FOCUS

- Support for with investment readiness
- Rationale/Model for detailed market sizing and ROI
- Plan of Attack – including a funding & product development plan
- Route-to-market strategy

The UKSA funded sprint has allowed the Satellite Applications Catapult to help HayBSee narrow down and better segment its targeted market. This has resulted in a more credible and less risky value proposition, pinpointed by a revised 'plan-of-attack', currently under review by interested angel investors.

## IMPACT

- In May 2017, HayBSee has been accepted in the ESA BIC programme (£41k of funding support)
- HayBSee has raised seed investment as result of the Sprint support provided. The investment was led by the UK Space Tech Angel Network and received in Q3 2017 (£250k)
- HayBSee has developed a prototype of the drone module.
- In October 2017 HayBSee has filed a series of patents for the robotic arm control system and the overall full system concept.
- They are now employing 7 people, 2 of which in full-time position.
- HayBSee has formed a consortium with the Satellite Applications Catapult and ABACO GROUP UK. In January 2018 it was awarded an Innovate UK Emerging & Enabling Technology grant funding to develop and test a strong ground-robot to satellite analytics platform for agriculture applications. The total value of the project is £681,781.

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*The sprint provided a good opportunity for a number of different people and resources to provide an external perspective on issues HayBSee is facing. This included finishing a framework for our market analysis at an in depth level, as well as identifying key criteria for end user-level success for our product. It also gave us a better connection to the Satellite Applications Catapult, which we will leverage as we continue to work with them synergistically in robotics, sensing and EO. Overall a great success!* ”

**Fred Miller,**  
CEO and founder HayBSee Ltd

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