



The SmartBee and SmartBee+ help beekeepers keep their bees healthy and productive | Photo source Boba Jaglicic on Unsplash

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## BEEHIVE MONITORING TECHNOLOGY FOR HEALTHIER BEES

 FOOD & DRINK

### Sensors measure temperature and humidity to optimise bee health and honey production, while also tracking bee movements and foraging patterns

**Spotted:** It has been over 170 years since the modern beehive was introduced, and beehive management hasn't changed significantly since. And while apiculture has changed little, honeybee populations have been in decline in recent years. This is due to a variety of factors, including disease, pesticides, and habitat loss.

As a result, farmers are increasingly relying on other methods of pollination, such as mechanised pollen applicators or hand pollination. These methods may be effective in the short term, yet they are unlikely to be sustainable over the long run. Man-made devices simply cannot take on the vital role that bees and other insects play in crop pollination. This is why Tunis-based Iris Technologies is developing cutting-edge solutions to protect bee populations.

Since the company was launched in 2016, it has raised \$380,000 (around €352,000) over three funding rounds. Its latest developments—SmartBee and SmartBee+— are both smart devices for beehive monitoring and tracking.

The sensors in the SmartBee+ device measure temperature and humidity. Every six hours, all the monitoring measurements are sent to the cloud for storage and data analysis. This number-crunching can be performed through a web interface or a mobile application. Beekeepers gain valuable insights into their hives, which allows them to optimise bee health and honey production. In addition, the SmartBee+ can be used to track the movements of bees and monitor their foraging

patterns. This information can help beekeepers identify potential problems early on and take steps to mitigate them.

Other features include a theft alert that will trigger a GPS tracking system, and swarming alerts (still in beta version) where sound, temperature, and humidity sensors predict and detect swarming events. The interface also delivers weekly notifications related to the hive's health and productivity, as well as tips from beekeeping professionals.

Bees are good for business and the planet and Springwise has spotted several bee-related innovations. These include [bees that deliver organic fungicide](#), [modular beehives that mimic the shape of trees](#), and [sustainable beehives made from mushroom-based materials](#).

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### **Takeaway:**

The loss of pollinators could have a devastating impact on the global food supply. [According to FAO](#), close to 75 per cent of the world's crops that produce fruits and seeds for human consumption depend, at least in part, on pollinators such as bees for sustained production. In addition to better monitoring from innovations such as the SmartBee, further measures that can safeguard these critical species include habitat creation and reductions in the use of pesticides.