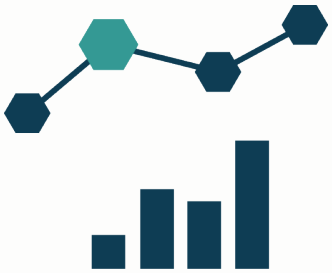
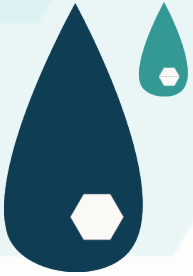
Bee Smart Technologies Info Sheet

Hive Diagnostic Station

One Hive Diagnostic Station is easily installed on any hive to immediately turn it into a control hive with data collecting capabilities. The system measures hive temperature, hive humidity, brood temperature, hive acoustics (including a complex on-site frequency distribution and intensity analysis). The accelerometer knows if the hive is moved or knocked over in order to prevent theft or signal for other external factors. The Diagnostic Station is easily attached to any frame in the hive in a matter of minutes. The box and all components are completely non-invasive to the bees and do not disturb or harm their natural lifestyle in any way. The entire Diagnostic Station is powered by a battery and delivers more than three months of work without a recharge. All the data that is collected with individual Diagnostic Stations and transmitted wirelessly to the Communications Gateway.





BEE SMART TECHNOLOGIES

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Communications Gateway

A single Communications Gateway located in an apiary can gather, aggregate and securely send the data collected from over 20 Diagnostic Stations that may be spread around over 150m radius. Once the data is received, we send it securely to our main servers for processing and analysis. The Communications Gateway is powered by a battery and is capable of transmitting the aggregated data via Wi-Fi, or the network of any available mobile phone carrier to suit the needs of any apiary.

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Interactive Dashboard

Every user gets an account where the information we collect and analyze is displayed. The Interactive Dashboard is extremely user friendly and provides all the necessary information the users need in an appealing visual way. The Dashboard has the capability to provide meaningful insights based on the readings from the Diagnostic Stations and the weather patterns. With just a few clicks and on any of their devices, users can get an unprecedented view of the health status and productivity of their colonies on an individual hive basis or on apiary basis.

Hive Scale

Knowing the daily change in weight provides invaluable information to any beekeeper. Not only can beekeepers keep track of nectar flow and colony buildup, but they can compare the productivity between colonies, set notifications to alert the beekeepers when winter feeding is needed and also know when supers get full. Beekeepers can minimize the number of manual inspections needed because they have all the information that they need right in front of them, on their Interactive Dashboard.

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Key Features of Remote Diagnostics	
Local Temperature at Apiary	Use accurate third party weather data to assess conditions at each user's location. Do trend analysis to determine micro-climate patterns that affect the honeybees at any given location.
Theft Protection or Displaced Hive	Accelerometer detects any abnormal movement of the hive (hive moved or tipped over) and immediately alerts the beekeeper in case of trouble.
Hive Temperature at Brood	One of the key health indicators for any colony. Brood temperature is vital for detecting irregularities in bee health. A graph is presented to the user on the dashboard so they know the status at any given point in time.
Foraging	Bees are active. We can tell how active exactly. Peaks and lows in activity are tracked and presented to the beekeeper. Users can compare activity of individual hives and the entire apiary.
Colony Buildup	Monitor colony buildup during the entire year. Comparing colony development helps identify weak colonies and keep healthier bees.
Hive Humidity	Bee colonies need to ventilate and their health and productivity depends on it. The best indicator of ventilation is humidity.
Brood State	Analyzing the temperature and humidity enables us to determine the brood state in each hive. The system can detect new brood.
Queen Status	Find out when a colony is broodless and when the queen has stopped laying. Do it remotely from your home.
Queen Mating	Find out when a queen started mating.
Swarm Management	The bees tell us when they are about to swarm. Frequency analysis helps us pick up pre-swarming conditions way in advance.

BEE SMART TECHNOLOGIES