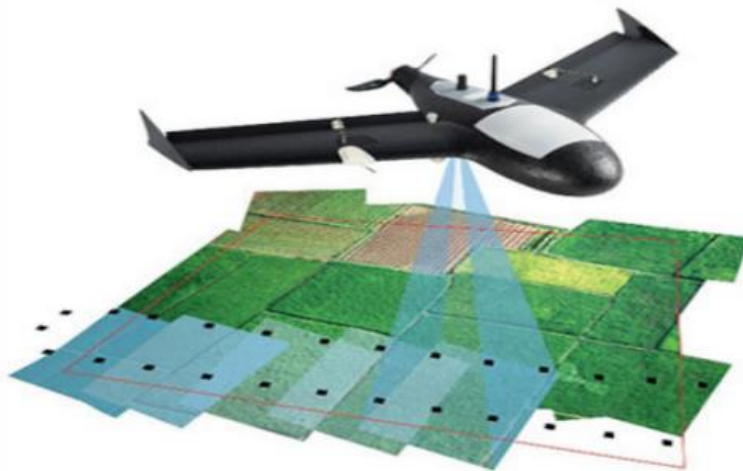


Drones in Agri and Food Tech

Drones are small and light aerial vehicles which may fly at extremely high altitudes and carry various **navigation systems or recording devices such as RGB cameras, infrared cameras, and other sensors**. Due to their ability to deploy various sensors and capture high-resolution and low-cost images of crop conditions, drones are very useful in farming. Images can be used to assess different aspects of plant health, weeds, and assets. **Drones collect raw data and translate it with algorithms into useful information**. Drones help farmers optimize the use of inputs such as seeds, fertilizers, water, and pesticides more efficiently. Therefore, they can be used for various applications in farming, such as the monitoring of the following parameters:

1. Crop health; damage made by pests, color change due to pest infection
2. Vegetation indices; leaf area, anomaly detection, treatment efficacy, phenology, yield
3. Plant height; plant height and density
4. Plant scouting; plant size, plot statistics, stand number, compromised plots, planter skips
5. Water needs; water-stressed parts of the field/orchard in need of watering
6. Soil analysis; nutrient availability for plant nutrient management



Drone flying over the field and collecting images

Drones are ideal alternatives when it comes to performing cost-intensive tasks in the food industry e.g. provide visual overview of the production site, carry out condition control, performs leakage detection and cleaning validation of equipment. The use of drones offers advantages such as:

1. quick overview of the production site and the state of the equipment
2. sharp and detailed images and video of defects and failures
3. data and insights usable in the maintenance planning
4. access to hard to reach areas
5. reduced downtime and optimised production
6. High level of safety.

World- Top 10 world best known Agri Tech companies using Drones

1. Gamaya:

Precision farming solutions using HSI technology deployed on drones.

url: <https://gamaya.com/>

CEO- Mathieu Hagen

2. Raptor Maps

Provides drone based service for capturing of farm data and also provides an analytics platform for decision support to the farmers.

url: <https://raptormaps.com/>

CEO- Nikhil Vadhavkar

3. Hummingbird Technologies

Provides services for on-demand aerial imagery capturing, image processing, and data analytics to the agriculture industry.

url: <https://hummingbirdtech.com/>

CEO- Will Wells

4. Agribotix

Provides data processing and analysis for precision agriculture.

url: <https://agribotix.com/>

CEO- Lou Faust

5. Deveron UAS

Provides aerial imagery services for crop planning.

url: <https://deveronuas.com/>

CEO- David MacMillan

6. Skycision

Provides aerial survey and mapping services targeted towards agriculture

url: <https://angel.co/company/skycision>

CEO- Brendan Carroll

7. GreenSight Agronomic

Developed a drone enabled water and chemical management for reductions in water, pesticide, and fertilizer usage.

url: <http://www.greensightag.com/>

CEO- James Peverill

8. Aker

Digital platform for crop monitoring and directed scouting.

url: <https://www.akersolutions.com/>

CEO- Luis Araujo

9. TartanSense

Analyzing health of plants using drones.

url: <http://www.tartansense.com/>

CEO- Jaisimha Rao

10. Aerobotics Provides early pest and disease detection solution guided by drone and satellite imagery.

url: <https://www.aerobotics.com/>

CEO- James Paterson

India Top 5 Indian Agri Tech Companies using Drones

1. Fasal

url: <https://fasal.co/>

CEO- Ananda Verma

2. Werobotics Drone-based technologies on their lands and orchards for remote sensing the data.

url: <https://werobotics.org/>

CEO- Patrick Meier

3. Garuda Aerospace

Garuda is using its drones for the purpose of pesticide spraying to help farmers in improving the efficiency and productivity of crops.

url: <https://www.garudaaerospace.com/>

CEO- Vimal Raj

4. Airwood

It has developed custom drones that gather field data which farmers can leverage using Airwood's farm management dashboards

url: <http://www.airwood.in/>

CEO- Vivek Rajkumar

5. Indrones

GIS mapping, precision agriculture, monitoring and inspection of infrastructure.

url: <https://www.indrones.com/>

CEO- Pravin Prajapati