

# AGRITECH

By 2050, the demand for food will surge 70%, in line with rapid population growth. A UN study found that about 9.9% of the world's population still goes hungry, so the thought of feeding almost 10 billion mouths is a daunting prospect. With environmental changes hard to predict, we must turn to innovation in agriculture technology.



## Precise Agriculture

- John Deere's Autonomous Tractor
- Planting, seeding, and harvesting
- Precision, increasing efficiency and reducing labor costs.



## Remote Sensing and Weather Monitoring

- Crop Yield Prediction
- Land Use Mapping and Planning
- Precision Fertilization
- Early detection of threats



## Vertical Farming

- Maximizes space utilization
- Reduces water consumption
- Spread Co.'s Kameoka Farm in Japan, covers 25,000 square feet and produces 10,000 heads of lettuce per day



## Gene Editing

- CRISPR-Cas9
- Precise genetic modifications
- Improved Herbicide Tolerance
- Faster Growth and Higher Yields
- Improved Nutritional Value



## Hydroponics

- Involves growing plants without soil, by using water-based mineral nutrient solutions.
- Optimize water usage and nutrient delivery
- Higher yields and faster growth rates
- World's largest indoor vertical farm in Abu Dhabi, spanning 130,000 square feet.



## Blockchain in Agriculture

- To track information about crops.
- Include seed quality, crop growth, and records of the plant's journey after it leaves the farm.
- IBM's Food Trust platform broke it enables
- End-to-end traceability of food products ensuring transparency, accountability in the supply chain.