Technology for tomorrow’s agricultural challenges

CEA Tech services for the Agriculture Industry

- Environmental impact reduction: Water testing, air-quality testing, waste monitoring, input reduction, image and sensor-data analysis
- Pathogen and fertilizer detection: Public health hazards, regulatory issues, and product quality
- Characterization of crop environments (greenhouse, field and stock farm): Gas detection and measurement, testing in controlled environments, and regulatory issues, and animal wellness
- Data transmission and processing
- Expert systems and advanced decision-assistance software
- Sensor systems and integration
- Energy efficiency
- Robotics and cobotics
- Vision systems
- Characterization

CEA Tech can help the following businesses:

- Agricultural equipment manufacturers: greenhouses and other agricultural buildings; agricultural vehicles and other equipment
- Seed manufacturers: assistance selecting varieties; monitoring of greenhouse and crop field testing; seed manufacturing and distribution
- Farming cooperatives
Here are some of the ways CEA Tech can support your development:

**Terahertz imaging**
Measure plant water content to locate and identify biochemical components

**Sensors for air-quality monitoring**
Test air quality in greenhouses; detect the presence of pathogens in crop fields

**Airborne-particle collectors**
Monitor fruit and vegetable maturity; detect the presence of pathogens

**Sensors for water-quality monitoring**
Detect substances like proteins, toxins, hormones, pesticides, drugs, and ions in water

**Sensor integration**
Instrumented textiles and containers to measure key indicators directly at the plant

**Heterogeneous sensor management**
Use remote command-control systems to automatically trigger watering depending on the data gathered

**Smart buildings**
Integrate photovoltaics into farm buildings; model building system operation; design optimal ventilation systems; cameras

**Heat production and storage**
Recover heat and use thermal solar energy

**Batteries and associated storage systems**
Provide efficient energy for agricultural vehicles and equipment

**Smart data transmission systems**
Retrieve data from extreme or difficult-to-access environments (underground, wet)

**Expert systems and advanced decision-assistance software**
Generate seed recommendations; analyze and leverage past test results

**Robotics and cobotics**
Design specific robots and cobots to perform or assist with farming tasks

**Characterization**
Characterize seeds at the nanometric scale

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